

# **University News**

**AUGUST 16, 1986**

**Re. 1.1**

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- **Overseas Students**
- **New Model of University Administration**
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Editor :

**SUTINDER SINGH**

# The Overseas Students A View From India

Amrik Singh\*

I wish to begin by calling attention to one small but, in my opinion, significant detail. The title of the lecture as given to me has to be The Overseas Students—the role and responsibilities of universities and the Government. This particular phrase, likely enough, was thought of in Britain where the phrase 'overseas students' has been used for a long time. Curiously enough, in India the phrase used is 'foreign students'. It is not for me to say that the phrase foreign students is better or worse than the phrase overseas students. For one whose mother tongue is not English, it would be a presumptuous statement to make. I shall not venture to do that therefore.

It seems to me however that there is a difference of emphasis in the usage of these two phrases. As viewed from Britain, a student who comes from another country is and can be legitimately described as an overseas student. Britain is an Island. Those who come from outside may therefore be described as coming from overseas. In the case of a country like India, the connotation undergoes a change. Anyone who comes from outside India is a foreigner and that is why the phrase foreign students is used.

Some people might ask if I am not trying to draw a distinction where none exists. This is true to some extent. What I really wish to call attention to is the historical fact that Britain is the mother country of the Commonwealth. It was from that island that the British people set out to explore other countries and settled down in quite a few of them either as residents or as conquerors. In either case they carried their language with them and even though the character of that association has undergone a change, the link of English language has stayed. Today when we are meeting here and using English as the medium of communication, this is because of the long historical connection that has existed between Britain and those countries which now belong to the Commonwealth.

In somewhat specific terms, Britain was able to have a worldwide empire on which as they said 'the sun never set' by virtue of the fact that before others knew what was happening, Britain had become the leader of the Industrial Revolution which got underway at the end of the eighteenth century and reached its first peak by about the middle of the nineteenth century. In the pre-Industrial Revolution phase it was sheer adventure and stamina on the part of the British people that led them into different parts of the world and enabled them to establish their presence in several of them. Once the Industrial Revolution had taken place Britain reached heights of economic glory and became, without question, the one country to whom others in the old empire looked up to for guidance.

While foreign students were not unknown in Britain before the middle of the nineteenth century, the current phase of students from

[ Address to the Fourth International Conference of University  
Registrars and Administrators, New Delhi ]

\*Former Secretary, Association of Indian Universities.

underdeveloped countries going to a developed country like Britain started about that time. A certain number of them started going to other countries as well. Today with approximately 4,00,000 students enrolled in its universities and other educational institutions, USA perhaps leads all other countries in the world in respect of the foreign student population. But there are quite some other countries also which receive a large influx of students. For almost a century and a half now, to cut a long story short, we have been witness to a phase of development where students going from one country to another for purposes of education and training has become an accepted fact of life.

## II

India has had a connection with Britain for over two centuries now. During this period hundreds of thousands of students must have gone to Britain institutions for study and training. For the last three decades or so the number of those who have been going to American institutions has been growing and perhaps exceeds the number that now goes to Britain. But till these current developments graduated into a social phenomenon, Britain was the country to which most Indian students went. I know of several plays and novels in various Indian languages written in the nineteenth century which refer to the social phenomenon of students having gone abroad and returned home with a certain kind of outlook which people who had not been abroad found it difficult to understand.

Till about the seventies of this century, the whole process of interchange went on more or less as it had gone on in the preceding two centuries. Then something happened in Britain. Owing to all kinds of reasons which it is not necessary to discuss at this stage, some people in the Government began to feel that the system followed so far needed to be changed. It was argued, and not without some merit, that students who came from other countries to Britain received their training at a highly subsidised rate. Subsidising the local students was one thing but subsidising the education of students who came from other countries was another thing. While such an attitude had something to do with the increasing rush from other countries, it had in my judgement more to do with the political and economic situation of Britain.

By then Britain had ceased to be the Imperial power that she used to be. The process of decolonisation which had started with the withdrawal of Britain from India in 1947 had almost run its full cycle by the end of the sixties. Except for a handful of small insigni-

ficant places in the rest of the world, Britain was no longer a colonial power. The earlier links therefore were not treated with the same degree of intimacy and commitment as before.

Perhaps another factor also played an important role. The economic situation in Britain had been difficult for sometime. Somebody therefore seems to have had the bright idea of putting an end to the policy of subsidising those who came from other countries. In an issue like this, some people would always take what I would call a somewhat shortsighted view. In any case, despite protests by quite some people, including the universities and the academic profession, the proposal was pushed through.

For almost a decade there was no attempt to reconsider the issue. Repeated pleas for reconsideration were made but were brushed aside. Even when it was argued that this kind of discriminatory policy would hurt the cultural standing of the country in the world, no attention was paid to such a plea. Nor did the idea of Commonwealth solidarity strike much of an echo in the minds of the policy-makers. It appeared as if the policy-makers felt that any kind of softness on this issue would go against the interests of the country. In any case they were not convinced that the idea of the Commonwealth was going to be seriously undermined by this move. Some marginal increase of funding was also granted to the British Council so that it could project the image of Britain much more vigorously and also at the same time promote the interest of English language.

These gestures however did not lead to much except that after about a decade the earlier rigidity was abandoned. More than that, substantial sums of money were made available to the concerned agencies so that students coming from the Commonwealth countries could be helped. There were countries like Malaysia, Hong Kong, Nigeria etc. which sent a very large number of students to Britain. There was considerable uneasiness in those countries on account of the policy adopted by the mother country of the Commonwealth. This feeling however did not lead to any souring of relations and the situation today is that the situation in the mid-eighties is distinctly easier than it was in the mid-seventies though some of the earlier strains still remain.

Most of these facts are well known and I have added little to the knowledge of those who are present. There is a reason however why I have chosen to go over them once again. What I wish to underline is that the deci-

sion taken by the British Government was dictated not by academic considerations, nor by economic considerations except very marginally, but largely because of other considerations. How to define those other considerations is something that should engage our attention now.

### III

Before I undertake that job, I would like to call attention to a couple of other facts also. Britain might have been the first country to impose higher charges on overseas students but some of the other countries like Canada and Australia also followed suit soon after. During the last few years they have shown greater accommodation than before and some of the rigours of the earlier policy have been toned down. However the situation has not returned to what it used to be, say even a decade ago.

In the case of India there has been no attempt so far to introduce a differential fee system for foreign students. It is not that the idea was not mooted. The idea has been projected and discussed repeatedly. When discussions were undertaken I too was involved in some of them and did a minor exercise for the Ministry of Education in determining the cost of education in respect of certain non-professional courses. After all that data had been assembled the Government of India could have taken a decision to charge higher fees from those coming from outside. It was however decided not to do so. This is the situation as it obtains today. Whether it undergoes a change tomorrow or not is something which it is difficult to anticipate.

As far as I have been able to gather, India is reluctant to impose restrictions in order to maintain and perhaps strengthen a feeling of solidarity with a large number of other underdeveloped countries. The initial impulse to consider this question came from the fact that within a year or so, because of the overthrow of the Shah of Iran, the number of foreign students in India shot up from 5000 to 25000. This created all kinds of strains, including over-population at certain university centres and some law and order problems as well. Fortunately the pressure from Iran has by now eased a great deal. Approximately 1000 students from that country are still studying in the Indian universities. That is about 10% of the total number of foreign student population in the country. In terms of percentages, students from Iran are 33% less than those from Nigeria, though between the two of them they have one-quarter of the total foreign student

population in India which is currently in the neighbourhood of 10,000. The more overriding consideration however has been the fact that India feels that she owes it to the other underdeveloped countries not to make it difficult for their students to join the Indian universities.

It may not be out of place to add here that the fee structure in India is exceptionally low and has been so for a long time. In most cases the fees in force were fixed about half a century ago and there has been hardly any upward revision in spite of an inflationary situation. Foreign students that come to India do not pay even five U.S. dollars per month even for such an expensive course as the medical course. The cost to the Government per student is in the neighbourhood of \$700-800 per year. What a student is required to pay for the whole year is less than \$50. Indian students pay at this rate and the same rate is applicable as well to foreign students; there is no discrimination whatsoever.

For sometime now several people have argued, and I am one of them, that the full cost of training be recovered from students pursuing technical and professional courses. Those who cannot afford to pay should be given loans and fellowships. But those who can pay, and their number is quite high, should be obliged to pay. It should not be necessary to go into further detail except to say that the enlightened approach to this problem is to abolish the disguised subsidy to higher and professional education and instead have a system where there is no pretence of under costing education at that level. Whether the fee structure is eventually changed upward or not remains to be seen. What is pertinent to note is that there is no distinction as of today between what Indian students pay and what non-Indian students pay.

I have dwelt on the Indian situation at some length partly in order to provide information to a large number of persons who have come from other countries of the Commonwealth and partly to underline the fact that this is not being done in a fit of absent mindedness but through a consciously formulated policy. As a matter of fact the odd thing about the Indian situation is that a considerable section of academic opinion is in favour of scaling the fees upwards though there is opposition to it also. As far as drawing a distinction between Indian and non-Indian students, the decision so far seems to be that no such distinction is to be made and that is what is relevant to the point under discussion.

What I have stated above in turn leads to the basic argument which I have been trying to build up. I would explain myself best if I were to refer to the Report of the Commission on International Development Issues under the Chairmanship of Willy Brandt which was submitted in 1979 under the heading North-South. The report is so well known that it should not be necessary for me to provide many details. Perhaps I cannot do better than to give a few extracts from that report. The Introduction to that report is called: A Plea for Change: Peace, Justice, Jobs. Amongst other things, Willy Brandt writes as follows:

Most people know that the existing system of international institutions was established at the end of the Second World War, thirty-five years ago, and that the South—mostly as late-comers on the international scene—faces numerous disadvantages which need fundamental correction. Hence the demand for a new international economic order. Fundamental change, of course, is not the result of paper work but part of a historical process, of what is developing or foreshadowed in people's minds.

A little later it is stated:

Our Report is based on what appears to be the simplest common interest: that mankind wants to survive, and one might even add has the moral obligation to survive. This not only raises the traditional questions of peace and war, but also of how to overcome world hunger, mass misery and alarming disparities between the living condition of rich and poor.

Indeed, a new epoch in man's history began when the majority of nations now in existence achieved their political independence in the period following the Second World War. As a result of decolonization in most parts of what came to be called the Third World, long-established power structures crumbled or collapsed, leaving vacuums and giving birth to new political and economic groupings. At the same time we witness the revitalization of old cultures. And the end of false superiority-complexes.

It is not easy to give up the attitude of superiority which went with imperialism. The process of decolonisation is a painful process and is preceded by prolonged and stubborn resistance. That is why Willy Brandt writes:

A historical process is not determined by resolutions or books, and privileged groups have seldom changed their attitudes wholly voluntarily. Arguments do play a role; words can be weapons. Nevertheless, a higher degree of intercommunication does not necessarily lead to better understanding. Reasoning in terms of ideologies and power-politics too often leads us away from, not closer to, a 'common language'. In spite of even deep-rooted controversies, we must seek agreement on content in order to arrive at common notions with the same meaning for all parties involved.

Even when agreement has been arrived at, other controversies arise. Some of them are crucial to the process of decolonisation. One of them relates to the confusion between growth and development. That is why it is stated:

One must avoid the persistent confusion of growth with development and we strongly emphasize that the prime objective of development is to lead to self-fulfilment and creative partnership in the use of a nation's productive forces and its full human potential. We must do away with the idea that our problems exist only because there are 'developed' countries and countries which want to be 'developed'. After all, the technological and economic development process in the North has not yet come to an end, and there is fierce discussion about how to progress from here—with different technologies, with a less wasteful way of life. Ideologies of growth in the North (and not only in the West of the North) have had too little concern for the quality of growth.

Apart from other things the thrust for growth leads to far reaching social and cultural changes. It is therefore important to have a clear notion of the direction being taken. In this connection, Willy Brandt observes:

A people aware of their cultural identity can adopt and adapt elements true to their value-system and can thus support an appropriate economic development. There is no uniform approach: there are different and appropriate answers depending on history and cultural heritage, religious traditions, human and economic resources, climatic and geographic conditions, and political patterns of nations. But there is a common notion that cultural identity gives people dignity.

All this, according to Brandt, cannot be accomp-

lished unless those in the North understand that the world is one integrated whole. The argument is thus summed up in these words:

We want to make it quite clear that North and South cannot proceed with 'business as usual' only adding a few bits here and there. What is required is intellectual reorientation, serious steps towards structural change, increased practical cooperation. A more relaxed climate of negotiations should do away with rhetorical warfare and unjustified expressions of distrust.

Why I have quoted at such length should be clear by now. The Commission headed by Willy Brandt gave evidence of unmistakable daring and vision. Almost half a decade has gone by since that Report was made. To what extent it has led to changes in outlook and policy is a matter about which I do not wish to comment. It is apparent however that hardly any serious follow-up action has been taken. What that Commission said remains a minority point of view for not many a people have been able to make that kind of intellectual leap which would enable them to see that the world is no longer what it used to be at the end of the Second World War. As if that was not deplorable enough there are still some people around who in respect of their deepest thought, and sympathies still belong to the era of the First World War.

Minority points of view, more particularly whenever anything new and innovative is advocated, do not win easy acceptance. Only a few people subscribe to what is calculated to bring about changes of a fundamental character. As the situation changes and as some of the prognostications come true, more and more people begin to veer round to the view originally advocated by that small minority. The plain fact is that those countries which are charging a higher rate of fee from students which come from poor and undeveloped countries are adding to the division of the world into North-South, something against which Willy Brandt and his commission have warned us.

The situation today demands a complete reversal of this policy. As academics we are of the view that a differential fee system works against the interests both of equity and development and the sooner this form of discrimination is done away with, the better it would be for the future of the world. It will be quite some years before the policy-makers in the developed countries come round to this point of view. Till then we are doomed to suffer at the hands of those who think of today but not of tomorrow. There is hardly any group of academics anywhere who are in favour of the present

policies. But their voice is not loud enough nor powerful enough to be heard by those who are concerned with policy-making. I have no doubt in my mind however that within a decade or so, or at any rate before this century is out, the situation will change.

A new international economic order would have to be created, for the North and the South depend upon each other in a much more intimate way than is today realised. Speaking for myself, I am not at all pessimistic as to the possibility of such a change. My only regret is that not all of us would be around to see such a change taking place. A change has to take place; about that I do not have any misgivings. The only thing that we should be worrying about is how to bring about such a change quickly, peacefully and with the least expenditure of effort. □



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# New Model of University Administration

A two-day seminar-cum-workshop on Planning and Management Aspects of University Administration for Registrars of universities was organised by the National Institute of Educational Planning and Administration (NIEPA) in collaboration with the University Grants Commission (UGC) and the Association of Indian Universities (AIU). About 30 Registrars from different universities in the country attended the seminar-cum-workshop. The role and functions of universities had considerably changed during the last decade or so. There was an increasing feeling that universities should contribute to the process of national development through training manpower, generating new knowledge and disseminating this knowledge to the community through extension activities.

The role of university administration in the attainment of these objectives is very crucial. The prevalent system of university administration was evolved when the university system was very small and the role of the university was limited largely to teaching, with very little emphasis on research and extension activities. This system of university administration has been found to be highly inadequate in meeting the present role of universities, particularly in the context of national development. It is necessary to evolve a system of university administration as the prevailing systems in either business or government are hardly applicable to the university. If the former is based on the philosophy of profit maximisation, the latter rests on exercise of controls. The main concerns of the universities have however been recognised as (i) responsiveness of societal needs (ii) progressive outlook (iii) free expression, and (iv) developing a culture of equality of relation-

ship as distinct from subordinate-supervisory relationship. Autonomy and accountability are the obvious choice for the guiding philosophy of university administration. The efficiency of any system is in direct proportion to the tuning of the personnel operating the system. No system can function if the people involved in it are not oriented towards its objectives and guiding philosophy. The modern processes of functioning are highly inter-dependent. As such persons involved in the system should have proper orientation in group efficiency and interdependent functioning so that the inter-personal conflicts are minimal.

Together with a guiding philosophy and proper orientation of the people, it is important that organisational structure and work procedures correspond to the guiding philosophy. Thus what is called for is an integrated model of university administration that should have a guiding philosophy, deal with orientation of people in the developmental outlook and inter-dependence together with suitable organisational structures and work procedures and efficient methods of men and material management. The participants were thus divided in five groups corresponding to the required elements of an integrated system of university administration:

- I. conceptual framework
- II. development orientation of university administration
- III. orientation in interdependence
- IV. organisational structure and work procedures
- V. men and material management

A brief record of the outcome of

the deliberations of the seminar-cum-workshop is given below:

## I. A Conceptual Framework : Autonomy and Accountability

Some of the important tenets of autonomy and accountability may be stated as follows:

### Autonomy

1. Natural desire and aspiration to function with freedom, dignity and willingness to assume responsibility.
2. Non-interference from any external agency in the internal affairs of the University.
3. Freedom to function to achieve academic excellence.
4. Freedom to administer the Institute on its own rules and regulations.
5. Education is an expensive proposition and mainly funded from the government sources. Therefore Central/State Governments be permitted to exercise only that much of influence as is obligatory on their part to ensure that the grants paid are utilised for the purpose they are given.
6. In matters of academic pursuit, the University must have autonomy to administer itself, adhering to its own rules and regulations.
7. The University act should permit this situation to be brought about by suitable amendments by State and Central legislature as the case may be.

### Accountability

1. Autonomy brings with it the aspect of accountability and self regulation.
2. Autonomy is not a licence but an opportunity to function with responsibility.
3. It also means willingness to share the limited resources for maximum utilisation for fulfilling the objectives of the Institute with a sense of belonging.
4. It also means willingness to share

responsibility, power and authority in a properly delegated manner.

5. It also means that the students, teaching faculty and the non-teaching employees appreciate this opportunity and willingly co-operate in the measures taken in the pursuit of knowledge and excellence, which are the primary goals of any educational institution.

### Facilitating Factors

Some of the factors which would facilitate autonomy and accountability may be mentioned below. To make all these possible, the Institute should have proper infrastructure.

1. Students' needs are to be taken care of (proper hostel, library and good laboratory facilities, etc.)

2. Faculty should have the freedom to pursue their teaching and research without hindrance. Reasonably adequate working expenses for equipment, computer facilities, facilities of travel, freedom to invite the members of community for academic interaction and some of the things which they value, besides a clear promotional policy for making a career, should be made available to faculty.

3. Non-teaching staff should have proper training programme to improve their skills and they should also have promotional avenues.

4. Involvement of the faculty, student representatives and representatives of the employees in appropriate committees, where common facilities become the primary concern, will be of advantage, for these sections should clearly understand the problems of administering a complex system like a University.

5. Providing various forums for these sections to informally focus attention on problems which affect them will be of advantage for anticipating and taking action in time.

6. It is desirable to devise a system

where academic problems are resolved by academics alone, the administration should provide the required input from the point of rules and regulations for them to take a decision.

7. The impact of external and internal influences and the interaction of these factors make administration more complex. Under no circumstances, the political influence should be permitted to distort its functioning.

8. It is, therefore, imperative that the Director/Vice-Chancellor should have appropriate powers to promote academic excellence in the institutions/universities.

### Features

Some of the features of autonomous and accountable institutions may be mentioned as below:

1. The University is one of the most complex of modern organisations and therefore one of the most difficult to administer. Therefore, it requires a more flexible and dynamic model of University Administration based on autonomy and accountability.

2. The model university is one where the best of faculty would like to come and compete in an atmosphere of excellence.

3. The best of administration is that which is responsible and innovative to the demanding needs without having to lose accountability in adopting liberal concepts and making it possible to achieve academic excellence. The best university is the one which has harmony in function between the Director/ Vice-Chancellor and the Administration and academics.

4. The university should have an open mind to utilise the expertise of the Registrar if he has academic background in teaching and other aspects.

## II. Development Orientation of Administration

### Problems and Issues

In the fast changing needs of the nation which while aiming at modernising the country to meet the challenges both at national and international level, also emphasise on the preservation and promotion of heritage of the country, it is imperative that institutions, particularly the Universities, would re-define their roles. Administration, in turn as an important component of the University system, has a vital role to play and hence required orientation to meet the developmental needs like :

- (a) emerging national goals;
- (b) expansion of the system quantitatively, infrastructure and discipline-wise;
- (c) new functions and roles of educational institutions;
- (d) changing aspirations of the society and policy makers;
- (e) emerging complexities of administration in view of the above changes.

It is in the context of these changes that the system of administration needs to be oriented to meet adequately the new tasks. The functions of universities and educational institutions have been redefined and enhanced. Apart from the traditional work of teaching, other tasks, namely, research and extension particularly with a focus to link teaching and research with the needs of the community at large have gained importance.

The present system of administration suffers from the following constraints :

1. The system is rigid and lacks flexibility required for change, especially due to lack of motivation and structural rigidity.

2. Centralisation of decision making.

3. Lack of proper and correct data base and flow of information for decision making.

4. Lack of cooperative understanding and role of administration and academics.

5. Erosion of autonomy of the educational institutions impeding thereby, experimentation and innovation at the institutional level.

6. Psychological resistance to change and even lack of will to carry out the assigned tasks on the part of teaching and non-teaching staff, essentially arising from the lack of understanding of the dynamics of the system.

7. Lack of skills to meet emerging complexities of administration.

8. Cumbersome and obsolete procedures of the system, often harmful for the process of development.

9. External pressures of various kinds creating instability and weakening of the administrative set up.

10. Absence of long-term perspective plan and continuity of policy due to relatively shorter tenure of university authorities.

### Suggestions

In order to remedy the above situation and to make university administration growth-oriented, certain pre-requisites may be stated as follows :

(i) to evolve a system by updating rules, statutes and ordinances thereby amending the charters and Acts of the University;

(ii) reorganisation of the university, keeping in view the objectives of decentralisation of power and officer oriented organisation with proper delegation of authority and responsibility;

(iii) short-term and long-term training programmes in educational management for administrators and

academic staff. Due weightage should be given to candidates who have undergone training programmes in recruitment and in promotion. Where this is not possible the promotions may be given on the condition that promoted employee would undergo training compulsorily;

(iv) establishment of various agencies to do liaison work and to create proper understanding and arrangement with state government, central government/UGC, etc;

(v) in order to meet challenges of the complexities of university administration to the maximum, following measures may be appropriate:

(a) Adoption of modern mechanised system for examination, financial management and management of libraries. There is need for establishing a data bank for easy flow of information for the purpose. A phased programme of management information system (MIS) should be introduced at all levels.

(b) R and D cell should be

established to prepare, review and monitor and modify the new systems in collaboration with the academic sector of university, namely, management schools, computer centres, departments of economics and education. This would also promote better understanding of the system among academic community.

(c) Permanent arrangement should be made to take advantage of the expertise developed at the national level institutions like NIEPA, AIU, etc.

(vi) autonomy to evolve a dynamic and practical administration at the system and sub-system level;

(vii) no solution except self-discipline can be suggested for withstanding external pressures weakening the university administration;

(viii) a planning board in collaboration with R and D cell should prepare a long-term and short-term plan of development of the university and decide priorities taking into account available resources and

## UNIVERSITY NEWS

### A Special Number on DISTANCE EDUCATION

8 November 1986 issue of University News will be a Special Number to mark the National Conference on Distance Education being organised on the occasion of the 61st Annual Meeting of the Association of Indian Universities at Gujarat University, Ahmedabad from 9-11 November, 1986. Contributions in the form of articles/reports/reviews are solicited on any one of the following aspects of Distance Education :

Concepts of Distance Education; Forms of Distance Education; Course Designing and Preparation; Role of Media in Distance Education; Economics of Distance Education; Student Support Services; Evaluation Methodology; and Case Studies, etc.

Articles of 2000-2500 words should be typewritten on one side of quarto sized paper in double spacing. Only original articles that have not been published elsewhere need be submitted. Contributions should reach the Editor latest by 30 September, 1986.

possibility of additional resources for the institutions.

### III. Orientation in Interdependentness

Academic and administrative sections form the most vital wings of a university. How far a university is able to achieve its goals of academic excellence, research, extension and preparing well-trained staff depends to a great extent on the functioning of these two vital wings. These two sections should not only function to an utmost efficiency by themselves but should also work in unison for the proper functioning of the entire university. Any malfunctioning in one will affect the other and thus the entire working of the university. When these two wings work efficiently and together, there would be proper climate in the university to pursue the goals set by the university. While the academic section, by and large, is guided by the Deans of various faculties of the university, the administrative section is guided more by the Vice-Chancellor and Registrar of the University. The following steps may be taken to see that the academic section and the administrative sections work in unison for proper functioning of the university:

#### Steps

1. Academic section should ensure that all the decisions taken in the steering committee of the Academic Council and the Academic Council are promptly communicated to all the colleges/departments. There should be one observer from administrative section also in these committees.

2. Academic section should ensure that the syllabi, schemes of instruction, rules and regulations for promotion in each course, completely updated, are available to all teachers and students.

3. Academic section will ensure,

at least one month before the starting of the various courses, that functioning arrangements are made for all courses, this has to be done in close consultation with administrative section.

4. Panels for departmental committees of various departments should be sent to the Registrar and Vice-Chancellor for approval even before the term is completed so that the new committee takes over without loss of time, this should be in consultation with administrative section.

5. Approval for appointment of Heads of Departments and Chairmen of Board of Studies should be obtained and communicated as soon as their terms are over.

6. Administrative section should clearly communicate the decisions of the syndicate to the concerned persons/bodies promptly. A copy of this should go to the academic section also.

7. Administrative section should be responsive to the demands of staff, students and karmacharies and see that replies, positive or negative, are sent promptly.

8. In all the committees of administration, one representative from academic section should be co-opted. Similarly in all committees of academics, one representative from administration should be co-opted.

9. The rules of administration should be properly communicated and implemented without fear or force.

10. Following fields where administration and academics should work together or have to work together for proper functioning of university system may be cited:

(i) In the selection of non-teaching staff, some members of the faculty should be made members of the Selection Committee;

(ii) In the selection of teachers, it is the non-teaching staff which looks after all the details, it is the Registrar and his staff that are most heavily engaged;

(iii) In a number of administrative bodies, in addition to the statutory ones (like the syndicate/executive council, academic council, senate/court, finance committee) members of the faculty are members. Examples are affiliation committee, transport committee, examination committee and so on.

11. Limitations of the faculty and the administration should be properly appreciated by each other in order to maintain peace and harmony. The administration is bound by rules. It has to see that there are no audit objections and no violation of Act, Statutes and Ordinances, this aspect needs to be appreciated by the faculty.

12. There should not be undue interference with one another. The administration should see that there are proper facilities for teaching and research. Everything can go well if the situation is properly understood.

13. Expenditure by departments should remain within the budget allocation. Purchase orders should be placed after confirmation from the finance officer regarding the availability of funds.

14. Departments should observe rules efficiently, e.g., for purchases, etc.

15. Physical facilities in one department should be made available to other departments.

16. Head of Department must look after the administration of his/her department.

17. Transfer of non-teaching staff from one department to another and from office to departments and vice-versa is advisable.

18. Sanction of increments must not be delayed.

19. Appointment of Registrar for a fixed period from amongst the faculty is advisable.

20. Procedure of forwarding of applications of teachers should be simplified and delay should be avoided.

21. Appointment of a Joint Consultative Committee of teachers and its meeting once in three months may solve many problems and also add to the improvement of procedures in administration.

22. Orientation of faculty and administration regarding the importance of inter-dependence in the functioning of the university system may be arranged from time to time.

## IV. Organisational Structure and Work Procedures

### Concept

University system is a human management process directed to achieve goals of higher education. Organisational structure of a university is a conceptual framework of variegated organs unified in a symbiotic relationship in pursuit of the objectives and targets required to be achieved. Work Procedures relate to the functional aspects of administration and embody mechanics, tools and techniques to fulfil the assigned tasks in an easy, efficient and effective manner.

### Approach

In designing an organisational framework, a systems approach is needed. Tasks are delineated specifically, their mutual relationship determined and units established to perform specific functions with a precise understanding of role performance of each unit, compartmentalisation of responsibilities and controls, their linkages, exercise and flow of authority and coordination

with adequate delegation of powers in consonance with the principles of scientific management. Result-oriented work procedures demand methods and mechanics which are based on carefully laid down principles of work norms, form and modes of communication, data processing, house keeping, record management and feedback mechanism to facilitate appropriate decision-making and controls.

### Issues

Following issues with regard to organisational structures and work procedures may be kept in view.

#### A. Organisational Structure

(i) statutory provisions and structural framework for governance and policy formulations;

(ii) powers and functions of statutory authorities;

(iii) implementation and management machinery;

(iv) determination of areas of responsibility and authority;

(v) organisational design for implementation of policy and decision-making;

(vi) delegation of authority;

(vii) representation of different interests and participative management;

(viii) ad-hocism to be replaced by systems approach for appointments, decision-making, etc.;

(ix) coordination, appraisal and controls;

(x) management, information systems.

#### B. Work Procedures

(i) categorisation of functionaries;

(ii) officer-oriented approach;

(iii) job specifications, qualification of work processes and determination of norms of work load based on work study;

(iv) flow process, lines of authority and span of control;

- (v) form designing;
- (vi) record management;
- (vii) recruitment, training and personnel development;
- (viii) incentives and rewards;
- (ix) simplification of procedures;
- (x) mechanisation and automation;
- (xi) office lay-out and physical environment,

### Suggestions

In order to develop proper organisational structure and work procedures, the following suggestions may be made:

1. one single Act for all universities in India;

2. setting up state level Education Development Commission which should :

- monitor the standards and programmes,

- finance salaries, maintenance, teaching, research, and extension,

- make statutes, rules, ordinances, regulations,

- make appointment of Registrars, DRs, SO's etc.

### Constitution of various bodies

1. Tribunals for each university for election petitions, complaints or grievances of teachers and employees against university or college and vice-versa, which may include departmental enquiry against lapses, etc.; students complaints regarding admission, gradation, unfairness, etc.

2. Executive Council for appointment of teachers, subordinate staff, management of funds, preparation of budget w.r.f. to Finance Commission regulations and service conditions.

3. Academic Council for framing syllabi, course contents, recommending text books and other academic matters, conduct of teaching programmes, academic evaluation of colleges.

4. College Development Council

for accreditation of colleges, monitoring college activities, periodical inspections, training of teachers, faculty improvement, orientation and strengthening.

5. Examination Boards to conduct all university examinations, declaration of results, accreditation of colleges based on performance of students, appointment of examiners, paper setters.

6. Student's welfare body : for welfare, sports, counselling and guidance, placement, information and support activities.

7. Extension and continuing education body.

8. Faculties.

9. Boards of Studies.

10. Planning and Development Body.

11. Finance Committee.

#### Principles of Composition of Bodies

Members :	Ex-officio	25%
	Elected	25%
	Rotation	25%
	Nomination	25%

#### Period and Terms of Appointment

(i) periods 2 yrs.

(ii) person eligible to be on a body only for two terms and only on two bodies;

(iii) students and non-teaching staff should not be eligible to be on E.C.

(iv) Registrar should be ex-officio member-secretary on all bodies.

#### Work Procedures

1. Unitisation of the organisation on functional basis; with areas of responsibilities clearly delineated;

2. Continuous process of in-service training for teaching and non-teaching staff;

3. Delegation of powers and authority with specific terminal responsibility with built-in feedback mechanism.

4. Development of effective and

modern techniques and use of computers and other office gadgets in work processes;

5. Simplification of forms;

6. Record maintenance including their computerisation;

7. Proper designs of office buildings and office lay out, keeping in view the flow of papers, procedures and supervision;

8. Introduction of O and M

section on permanent basis, which would also cater to organisational development.

#### V. Men and Material Management

Universities or institutions of higher learning are basically human systems, established to attain certain objectives, i.e., creation of

### ASSOCIATION OF INDIAN UNIVERSITIES

AIU House, 16 Kotla Marg, New Delhi-110002

Applications from Indian citizens are invited for the following posts in the prescribed forms available on payment of Rs. 2/- from the office of the Association :

#### 1. Dy. Secretary (Admn.) : Scale of Pay Rs. 1500-2000 : One

Post Graduate with 1st class or high second class degree with at least ten years experience in an administrative post at executive level in University/Government Department/Autonomous Organisation. Persons having Diploma/Degree in Personnel Management and knowledge of administrative rules and understanding of issues in university system will be preferred.

#### 2. Research Officer : Scale of Pay Rs. 1100-1600 : One

Essential : A first class postgraduate in Sciences, Mathematics or Statistics with at least five years experience of research in the area of examinations in Colleges/Universities. Desirable : Good knowledge of computer applications with experience in computerisation of examination work.

#### 3. Section Officer : Scale of Pay Rs. 700-1300 : One

Graduate with at least seven years experience as sales executive in a publishing house of repute. Candidates having Master's Degree/Diploma in Sales Management/Publishing/Personnel Management and knowledge of accounts will be preferred.

Persons already working in Universities/Colleges can be considered for deputation terms.

All posts carry dearness and other allowances generally at the Central Govt. rates. Relaxation in any of the requirements may be made in exceptional cases. The Association reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant. SC/ST/Ex-servicemen will be given preference. Canvassing in any form by or on behalf of a candidate will be a disqualification.

Applications complete in all respects should reach the office by 30th September 1986. Persons already in service may apply through proper channel. Applications received after the last date or without complete information may not be entertained.

knowledge, imparting this knowledge to students and dissemination of the knowledge to the society in general. They have three components, the students, the teachers and the administrative and supporting staff. The individuals join these institutions for the fulfilment of their own objectives keeping in view the broad objectives of the institutions.

Any management model should, therefore, aim at synthesising the institutional goals with goals of the individuals who join the institution in order that both of them are not in conflict but become co-terminus.

The management models applied to industries or other production units cannot be applied as such to the management of the educational institutions for the simple reason that most of the objectives of the educational institutions are based on intangible results which cannot be measured from day to day.

Motivation of students and employees for innovation should be the basic management tool around which the management policies and regulations should revolve.

Educational and research activities are creative activities which can produce best results only if individuals are motivated, an environment of peace and tranquility prevails in the institutions and a work culture is established.

The management policies must, therefore, be specifically designed with a view to secure satisfaction to the individuals through hard work and pursuit of excellence and this should be rewarded. It should also be ensured that working conditions and service conditions are clearly and unequivocally defined and ensured in order that the individuals know fully well that so long as they carry on their pursuit of excellence honestly, diligently and intelligently, they will go on getting the satisfaction of the rewards.

Selection of individuals with necessary qualifications and capa-

bilities is therefore one of the most important tasks. The recruitment policies must be so devised that they ensure the selection of candidates on merit and merit alone through specifically designed written and oral tests. Job descriptions must also be clearly defined and incorporated in the letter of appointment itself.

A system of continuous appraisal and evaluation of each unit in the university must be established. This should take the form of performance appraisal with a view to guide the employees to perform better. And based on the results of these appraisals, a system of rewards and punishment should be worked out.

Welfare of the employees and students must be included as one of the goals of the universities or institutions. This is being done even in some professional/industrial houses of the private firms.

Another important aspect of personnel management would be devising of pre-service and in-service training programmes for various categories of employees in the University. But, before meaningful and effective training programmes are devised, job profiles or specific job charts will have to be carefully prepared for different categories of employees and their training programmes oriented accordingly.

For effective management of men in an educational institution, particularly universities, it is necessary that the responsibilities, duties and process of each important unit and function shall be very clearly spelt out in the statutes, as power without responsibility, responsibility without power or authority to fulfil that responsibility will only lead to irresponsibility, confusion and anarchy.

The material management should be oriented to:

1. ensure that equipment, tools and all supplies needed for

teaching, research, extension and maintenance functions of various units are procured timely at most competitive costs;

2. once purchases are made, they should be stored properly, pilferage controlled or at least minimised in storage and the costs reduced to the minimum;
3. the requirement charts of various materials supplied over the year is prepared and purchases are planned accordingly about 3 months in advance;
4. inventory control is practised;
5. for each major equipment a log book should be maintained to watch its utilisation and also for timely detection of problems;
6. power for purchasing may be delegated at various levels.

## GENERAL RECOMMENDATIONS

While accepting the model of autonomy and accountability with the objectives of equity, excellence and efficiency for revamping varsity administration, following general recommendations are made:

1. Higher education management and planning may be accepted as a discipline for training of educational administrators in the system of higher education.
2. Short-term and long-term courses in educational management and planning in different aspects of educational administration of universities for administrators as well as academics involved in administration may be introduced.
3. This training may be considered as a qualification for

recruitment and promotion of administrative staff in universities and colleges.

4. National institutes and organisations like NIEPA should establish institutionalised networking with universities, through UGC, for promoting training programmes for different levels of staff in the higher education system. Universities should establish regional networking for achieving the above goals.
5. Cells may be set up in universities for research and for preparing materials related to studies and administrative practices in educational institutions for improving the system.
6. Practical administrative structures may be evolved within the system to suit individual institutions for greater autonomy, flexibility and relevance to meet changing needs and to become socially relevant. For the above purpose, and for establishing greater coordination between different agencies, suitable mechanism may be evolved.
7. Administrative and academic functions are interdependent. In order to have a better understanding of the problems, representation should be given to both the sections on university/college committees and bodies. To strengthen this interdependence between academically related personnel, channels of communication should be opened as early as possible.
8. Statutory provisions need rethinking so that they give scope for greater autonomy and freedom to educational institutions for innovations and experimentation.
9. Researches undertaken should be socially relevant for generating knowledge. In order to avoid duplication, information networking should be set up. Universities should periodically identify thrust areas for research so that faculty and students can undertake researches in that framework and contribute more substantially to the process of development.
10. In order that extension, the third dimension of education as accepted by universities, can be adequately implemented, proper infrastructure should be provided.

It is hoped that the new model of university administration, integrated and comprehensive as it is, if tried in university administration, will help it play an effective role in the proper functioning and development of the university system in India. □

## Rs. 4 CRORES ALLOCATED FOR UNIVERSITY COMPUTERIZATION

While the country is still in the process of experimenting and finding a suitable education policy even after 38 years of independence, the University Grants Commission (UGC) has decided to provide computers to every university "which has teaching and research departments." The proposed scheme will cover not just universities but also some of the 5500 affiliated colleges in the country, which will be provided with microcomputer systems under restructuring of courses. UGC has allocated Rs. 4 crores for the scheme for the year 1986-87.

Although UGC has not recommended any particular system for universities as yet, it has classified the country's 158 universities and university level institutions into four levels—A, B, C and D categories—on the basis of financial requirement for hardware and site preparation. The Commission will provide eight lakh rupees, Rs. 14 to 15 lakhs, Rs. 20 to 25 lakhs and Rs. 40 to 45 lakhs for the four categories respectively.

As per this classification, the universities are expected to go in for one minicomputer, supermicros or a combination of the two with multiple terminals. These systems will be primarily used for financial accounting, general and administrative functions, administrative reforms, academic courses and examination reforms.

Surging ahead at a swift pace, 35 universities have already set up computer centres. Approval in the case of 37 others has been given. In addition, 26 universities have been identified for providing assistance to procure computer systems. The remaining universities will be provided financial assistance for buying computer time and the 12 that already have systems have been allowed to either replace or upgrade them.

One independent agency, which deserves a special mention in this connection is the Delhi-based Association of Indian Universities (AIU). Acting as an advisory body, AIU is assisting the universities in selecting the hardware and developing the requisite software for them. The agency's research cell has already developed three applications packages for examination reforms in line with UGC's plans for Restructuring of Courses and Examinations.

[Courtesy : DATAQUEST, July, 1986]



# Automatic Weather Station at Cochin Varsity

An automatic weather station which is unique in several respects is being installed at the School of Marine Sciences of the Cochin University of Science and Technology.

Manufactured by M/s Eeko, Japan, the system is designed to measure the meteorological parameters, viz., wind speed and direction, atmospheric pressure, humidity, air temperature and precipitation and to store the information on data logger system. The weather station makes hourly records of average of 10 minute wind speed in m/sec, average of 10 minutes wind direction in degrees, instantaneous atmospheric pressure in millibars, instantaneous atmospheric temperature in degrees, instantaneous humidity in percentage and total precipitation for one hour in mm.

The system will also provide 24-hour day averages and maximum and minimum values of atmospheric pressure, air temperature and humidity and the day total of precipitation. Additional sensors for recording direct solar radiation, net radiation and evaporation will be incorporated shortly.

The automatic weather station is expected to provide precise information on the meteorological parameters in Cochin and to take the concerned departments of the University much ahead of the classical methods in meteorological data collection.

The system gives continuous recording of all the parameters and has got facility to store the data. Data can be fed to the computer whenever needed. The system

makes possible the archiving of meteorological data from now on.

## School of Creative Arts at JNU

The School of Arts and Aesthetics of the Jawaharlal Nehru University proposes to offer courses in M.Phil and Ph.D. in dance, painting, sculpture, crafts and related areas from the next academic year i.e. from July, 1987. These courses would be in the areas of specialisations in the study of the principles and practices of creative arts. The academic and research programme proposed to be developed at the new School includes inter-disciplinary approach having a bearing upon the theory and practice of the various arts. A sound and comprehensive perspectives common to all of them shall be explored. Though the School will primarily focus on the study of these arts in relation to India, it would also explore the ramifications and link of artistic and wider cultural processes in other countries of the Indian sub-continent and of South-East and West Asia and other neighbouring countries.

A series of lectures on various aspects of different arts, seminars, workshops, exhibitions and presentations of performing arts by the renowned scholars and artists are also proposed to be organised during the course of the year to lay emphasis on the inter-disciplinary approach to the arts of Indian sub-continent and neighbouring countries.

## Self Employment Courses at GNDU

The Faculty of Economics and Business of the Guru Nanak Dev

University has introduced one year Post-Graduate Diploma Courses in Marketing Management, Business Management, Labour Relations and Personnel Management, Agricultural Marketing and Office Management and Secretarial from the current academic session. The main objective of these courses is to provide an opportunity for self employment, to make the graduates economically productive and to spread the management culture in an agrarian economy.

The Punjab School of Economics of the University has already introduced a number of new courses. These include B.Sc. (Hons. School) in Economics, M.Sc. (Hons. School) in Economics (Industrial Economics) and Post M.Sc./M.A. Diploma in Quantitative Economics and Computer Applications. The University has also introduced elective subjects, viz., Computer Applications in Economics, Quantitative Methods for Economists, Rural Planning and Development, Industrial Economics, Agricultural Marketing and Econometrics, at the graduate level in the affiliated colleges.

## New Courses at Punjabi Varsity

The Punjabi University, Patiala, proposes to introduce a pilot project in arts and social sciences. According to Vice-Chancellor, Dr. Bhagat Singh, three courses have already been identified.

The rural course is proposed to be introduced in rural colleges and may include rural society, crop husbandry (including irrigation, fertiliser, pests and their control), rural public administration, animal husbandry (including dairy products, fish and poultry farming and piggyery), development and delivery systems, banking, insurance and rural marketing.

The business and office management course is proposed to be introduced in urban colleges and may include office organisation and procedure, business organisation, book-keeping and accounts, sales management (including export/import procedure), banking, insurance and commercial law and taxation.

The home management course is proposed to be introduced mainly in women's colleges. It may include family and society, domestic practice (including textiles), mother and child care, accounts and banking, population education and food and nutrition.

### **Advanced Computer Course at Cochin Varsity**

The student branch of the Institute of Electrical and Electronics Engineers Inc., USA (IEEE), recently established in the Cochin University of Science and Technology, organised a week-long course on 'C' language during 29 May-4 June 1986.

Thirty candidates who had previous knowledge in any of the high level computer languages were selected on first-come-first served basis. Classes were conducted during the evenings at the Department of Polymer Science and Rubber Technology Auditorium.

### **Anna Varsity Awards**

The Syndicate of the Anna University has decided to donate Rs. two lakhs to the University Grants Commission (UGC) for instituting an Award entitled "Anna University Award for Research in Engineering/Technology." The Commission is reported to have accepted the offer and the modalities for the Award are being worked out.

The University has already donated a sum of Rs. one lakh to the

Indian Society for Technical Education (ISTE) for instituting an Award entitled "Anna University Award" for the outstanding scientist of the year. This Award is already in operation.

### **Jiwaji Varsity to Host ISTAM Congress**

31st Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM) will be held at Jiwaji University, Gwalior, from 24-27 October 1986. Prof. Yash Pal, Chairman, University Grants Commission (UGC), will deliver the key-note address. During the period of the Congress, symposia will be held on different topics.

The working papers for the Congress will cover the following areas of Theoretical and Applied Mechanics: (1) Mechanics of Fluids, (2) Mechanics of Solids, (3) Statistical Mechanics, (4) Mathematical Methods, (5) Computational Methods, (6) Theory of Mechanics,

- (7) Experimental Techniques, and
- (8) Composite Materials.

Indian Society of Theoretical and Applied Mechanics is an international scientific organisation and it maintains liaison with International Union of Theoretical and Applied Mechanics and other international bodies engaged in the activities of similar nature of research. The Society was established in 1955 and its first annual Congress was held in Kharagpur.

Nearly 250 delegates both Indian and foreign, who are specialists in their fields, are expected to attend the Congress and present their research papers. Among the eminent scientists who are likely to participate are Prof. Paolo Mele (Italy), Dr. R.C. Shroter (UK) and Prof. L. Debhath.

Further details about the Congress can be had from the Organising Secretary, Dr. V.P. Saxena, Professor of Mathematics, Jiwaji University, Gwalior.

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## **CABE Recommends National Body for Higher Education**

The two-day conference of the Central Advisory Board of Education (CABE), which concluded its deliberations on the new education policy recently, recommended the setting up of a national body for coordinating higher education. Such a body would help bring about greater inter-disciplinary approach, particularly in research, coordinating the work in various fields like agriculture, medicine, law and other professional educational spheres.

The conference also suggested that there should be decentralization of management with autonomy both at institutional and local levels including districts. However, auto-

nomy should go hand in hand with accountability, it said.

On open university and distance learning institutions, the conference felt, the Indira Gandhi National Open University should establish regional centres in States for better interaction and coordination with State Open Universities. Duplication of courses should be avoided by the national and State Open Universities.

The conference also laid emphasis on strengthening links between education and development through mechanisms like work experience, vocationalization, rural institutes and universities.

## UGC Assistance for Kakatiya University

The Faculty of Pharmaceutical Sciences of the Kakatiya University will get a financial assistance of Rs. 1.27 crores from the University Grants Commission (UGC) during the Seventh Plan Period. Prof. K. Sachidananda Murty, Vice-Chairman of the UGC announced at the eighth annual convocation of the University which he recently addressed in Warangal.

## Sathya Sai Institute to Introduce MBA

Sri Sathya Sai Institute of Higher Learning proposes to introduce a Master Degree Programme in Business Administration from the current academic session. The Programme would be based on Indian culture and would help in producing dedicated management personnel at various levels.

## Free Education at Sathya Sai Institute

Dr. S.N. Saraf, Vice-Chancellor, Sri Sathya Sai Institute of Higher Learning (deemed university) said in Anantapur recently that the university had decided to exempt students from all fees from the current academic session. He further said that admissions to various courses would be based purely on merit and the university had opened eight admission test centres in the country.

Dr. Saraf also announced that the Whitefield Campus at Bangalore is proposed to be upgraded and renamed as Sri Sathya Sai National Centre for Education, Research and Training.

## Punjabi University to Restructure Courses

Punjabi University, Patiala, is reported to have decided to adopt the U.G.C. model of restructuring undergraduate courses with effect from the forthcoming academic session. According to the Vice-Chancellor, Dr. Bhagat Singh, the courses at the B.A. level will be so restructured that no additional burden is put on students. The U.G.C. will give Rs. 5 lakh over five years to

each college which decides to introduce these courses.

A committee set up by the Vice-Chancellor to examine the issue relating to the introduction of these "application oriented courses" has stressed the need to redesign the content of arts and social science courses. It has felt that the restructuring of undergraduate courses in arts and social sciences should get precedence over science courses.

## News from Agril. Varsities

### Advanced Centres on Agricultural Education and Research

Under an agreement signed recently between India, UNDP and FAO, eleven agricultural universities and ICAR sponsored research institutions in India will participate in a project, "Advanced Centres on Post-Graduate Agricultural Education and Research".

The activities covered under this Project include agricultural education and research management, plant biotechnology, animals biotechnology, immuno-biotechnology, irrigation management, land resource management, soil fertility, agricultural meteorology, agro-forestry, seed technology and inland fisheries.

The UNDP assistance to the Project is reported to be of the order of Rs. 150 million approximately, which is the largest ever in the world. It will also help India in another vital sphere — transfer of newer technology to farmers — by establishing linkages with international agricultural institutions and by disseminating research findings to the farmers as part of

India's sustained agricultural development programmes.

While India's contribution will cover the local support staff, local training, indigenous equipment, land, buildings and the maintenance component, the UNDP assistance will be utilised for obtaining international consultancy training of Indian personnel abroad and import of sophisticated equipment to the tune of six million US dollars.

### Sand Dredging Equipment

The College of Horticulture (Vellanikkara) of the Kerala Agricultural University conducted a study on the dredging of sand from water bodies to develop a suitable labour saving and drudgery reducing sand dredging equipment.

In this contrivance, a jet pump powered by two 5 HP diesel pump-sets was used as the suction equipment, to suck up the sand, along with a large volume of water from the river bed. The high velocity slurry of sand and water discharged at the throat of the jet pump is led

to a hydrocyclone where sand is separated from large volume of water accompanying it. The whole equipment is mounted on a floating platform.

This machine gave an output of more than 80 tons as compared to the manual method where it is only possible to dredge 10 tons by two men. The cost per ton of sand collected with this equipment worked out to Rs. 5.60 as against Rs. 6.93/ton for the manual collection method.

### **HAU to Set Up Veterinary Labs**

Haryana Agricultural University (HAU) has decided to establish Disease Investigation laboratories at each of the district headquarters in Haryana. The laboratories already functioning at Gurgaon, Karnal, Rohtak, Ambala and Sirsa, besides a Central Disease Investigation Unit at Hisar are entrusted with the investigation of disease outbreaks. The important diagnosis made so far by these laboratories include rinderpest, tuberculosis, John's disease, rheumatism like syndrome, blue tongue, brucellosis, genital mycoplasmosis, etc. in cattle and sheep and enterotoxaemia and rabies in camels.

Blue tongue has been diagnosed in the exotic sheep for the first time in India. Swine fever, foot and mouth disease and piglet diarrhoea are important diseases diagnosed in pigs. Similarly, several important diseases in poultry have also been identified.

HAU is the first University in the country to establish such well-equipped disease investigation laboratories in animals in the state.

### **Cow-dung extract checks bacterial blight**

Studies conducted at the Regional Agricultural Research Station, Pattambi of the Kerala Agricultural University have revealed that spraying of cowdung extract controls

bacterial blight of paddy. Results of trial conducted during three seasons in 1982-83 showed that cowdung extract (20g fresh cowdung in one litre of water) as foliar spray was equally effective as the three costly antibiotics, Penicillin, Pausamycin and Plantomycin.

## **AIU News**

### **AIU Standing Committee Meets at Madurai**

Bharathiar University, Coimbatore, and Chandra Shekhar Azad University of Agriculture and Technology, Kanpur were admitted to the regular membership of the Association by the AIU Standing Committee which met at Madurai Kamaraj University on 26th July, 1986.

The Standing Committee also admitted Thapar Institute of Engineering and Technology, Patiala and International Institute of Population Sciences, Bombay as provisional members of the Association for a period of three years. These memberships will be effective 1st April, 1986.

The Standing Committee discussed the question of 'Education and Human Values' and decided to constitute a Sub-Committee that would consider the programme of action for promoting education in human values in universities/colleges and suggest the role AIU should play in this matter of urgent national importance.

The Committee also approved the proposal of Indo-US Book Bank for supplying technical books to Indian technical institutions at no charge. It was decided that this project be executed with the assis-

tance of the UGC. It is expected that technical books worth \$250,000 would be distributed to the technical institutions in India during 1986-87. The Standing Committee also approved, in principle, the proposal that AIU should host the 1991 ACU Conference of Executive Heads of Commonwealth Universities in Delhi. The President of the Association will lead a delegation to the Union Minister of Human Resource Development to seek his approval as well as financial assistance for organising the Conference.

The Standing Committee decided that a National Conference on Undergraduate Curriculum and Social Relevance—Need for Community Colleges be organised at Gujarat Vidyapeeth during January-February 1987. The exact dates will be announced after ascertaining the convenience of the host university.

As regards the problems of Deemed Universities, the Committee decided to request the UGC to convene a meeting of the Vice-Chancellors/Directors of Deemed Universities to consider their administrative and financial problems that require urgent attention.

The Standing Committee also approved the Research Advisory Committee's proposal on Educational Testing Technology. The proposal seeks to initiate R & D study of admission tests conducted by different agencies like, Universities, Govt. Departments, UPSC, etc. for admission/place-ment. The study will suggest, on the basis of statistical analysis, ways and means of improving these examinations in terms of validity, reliability, dependability, acceptability and so on, and consider the feasibility of a National Testing Service.

The fixation of age limit of 60 years for appointment of Vice-Chancellors in Andhra Pradesh was considered as a retrograde step. The Standing Committee decided to address the Chancellor of the AP universities, the UGC and the Union Minister of Human Resource Development to request that the national guidelines prescribed by the UGC for the upper age limit of 65 years for Vice-Chancellors should be followed uniformly all over the country.

### Natarajan Completes UNDP Assignment

Educational Consultants India Ltd. (EdCIL) invited Dr. V. Natarajan of AIU, for a UNDP assignment, as a consultant to the Ministry of Education, Govt. of Ghana in Accra, from April to July, 1986:

- (i) to advise the Ministry of Education, to establish a Division of Planning, Programming, Budgeting, Monitoring and Evaluation for all the organisations under the Ministry;
- (ii) to propose an organisational structure including staffing, functions and job descriptions of several positions at

the national, regional, district and local levels in Ghana with an emphasis on decentralisation of decision making, implementation and monitoring and evaluation;

- (iii) to suggest ways and means of collecting, collating, processing, disseminating, information data base required for all;
- (iv) to suggest technical assistance required for implementation of human, financial, training resources.

Dr. Natarajan visited all the three universities, a few secondary, junior secondary, middle and primary schools and polytechnics and teacher training institutions and held discussions with officials, and educationists. He recommended setting up an Information Data Base to build up timeliness, accuracy and reliability of data for educational planning, programming and budgeting with a computer system to be commissioned in 1990.

## News from Abroad

### Cheating is Permissible

The management course at George Washington University in Washington DC is a cribber's paradise. Professor Jerry Harvey not only permits cheating—he insists on it. According to his syllabus: "You may take the examination alone, with another person, or with as many other people as you would like.... you may refer to notes and reference materials during the exam. You may bring friends, relatives, or associates to help you."

Professor Harvey's own definition of cheating is the failure to assist others with assignments. Few problems in the outside world, he points out, are solved by the unaided effort of one person. Why should exams be different?

Like many a pioneer, Professor Harvey has not found instant acceptance for his ideas. "It's un-American," said one colleague. (Courtesy: The Times Higher Education Supplement).

## CORRESPONDENCE COURSE IN EVALUATION METHODOLOGY AND EXAMINATIONS

Applications are invited from College/University teachers for admission to Correspondence Courses in Evaluation Methodology and Examinations at Basic Level, Intermediate Level and Advanced Level/Special Professional Course. The duration of each of the three courses is six months. A personal 'Contact Programme' for three days is planned for each of the three courses. Universities/Institutions sponsoring candidates can meet the registration/course fees from out of unassigned grants by UGC.

Request for prospectus and application form accompanied by a crossed Indian Postal Order for Rs. 10/- drawn in favour of the Secretary, Association of Indian Universities and a self addressed stamped envelope (Re. 1/-) should reach the undersigned. Last date for receipt of applications is 15th September for non-sponsored and 26th September, 1986 for sponsored candidates.

**Project Director (Examinations)**  
**Association of Indian Universities**  
 AIU House,  
 16 Kotla Marg  
 New Delhi-110002.

# CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
September, 13-15, 1986	National Solar Energy Convention 1986	To evaluate the current status and trends in solar energy studies; to evolve methodology for collaboration among researchers and industrialists; and to identify technologies for harnessing renewable energy sources.	School of Environment and Natural Resources, Madurai Kamaraj University, Madurai	Prof. T. M. Haridasan, Organising Secretary, National Solar Energy Convention—1986 School of Energy, Environment and Natural Resources, Madurai Kamaraj University, Madurai
September, 19-20, 1986	National Policy on University Libraries	To have exchange of views among the University Librarians on various facets of the seminar	Osmania University Library, Hyderabad.	Shri N.B. Inamdar, Seminar Director & Librarian, Osmania University, Hyderabad.
October 1-4, 1986	Third National Conference on Women's Studies	To promote the development of Women's Studies in India by providing a forum for interaction amongst individuals, institutions and organisations engaged in teaching, research or action for women's development.	Indian Association for Women's Studies, New Delhi in collaboration with Panjab University, Chandigarh	Dr. Lucy Jacob, General Secretary, IAWS, L-3-D, University Campus, Jaipur
October 5-7 1986	International Seminar on Gandhi and Contemporary Ideologies regarding Freedom, Peace and Equality.	To evaluate the Contemporary Ideologies regarding Freedom, Peace and Equality in the context of Gandhiji's Contribution.	Institute of Gandhian Thought and Peace Studies, Allahabad University in collaboration with the Indian Society for Gandhian Studies.	Dr. J.S. Mathur, Director and Dr. O.N. Srivastava, Associate Director, Gandhi Bhawan, Allahabad University, Allahabad.
November 9-10, 1986	National Conference on Distance Education	Topics proposed to be covered are: (i) Concept of Distance Education; (ii) Forms of Distance Education; (iii) Course Designing and Preparations; (iv) Role of Media in Distance Education; (v) Financing of Distance Education; (vi) Student Support Services; (vii) Evaluation Methodology.	Association of Indian Universities, New Delhi; Indira Gandhi National Open University, New Delhi; and Gujarat University, Ahmedabad	Prof. B. N. Koul, Indira Gandhi National Open University, K-76, Hauz Khas, New Delhi. Mr. M.M. Ansari, Project Director (Research), Association of Indian Universities, 16 Kotla Marg, New Delhi
December 15-17, 1986	Indian Geotechnical Conference—1986	Designed to seek a consensus on questions of current significance in geotechnical engineering relevant to the Indian context.	Indian Geotechnical Society—Delhi Chapter	Prof. Shashi K. Gulhati, Organising Secretary, IGC-86, Civil Engineering Department, Indian Institute of Technology, New Delhi.
December 26-28, 1986	Seventh National Congress of Parasitology	Prophylaxis and control of parasitic diseases of man and his biosphere	Department of Bioscience, Ravishankar University, Raipur, in collaboration with Indian Societies for Parasitology	Dr. S.M. Agarwal (Organising Secretary) Vice-Chancellor, Ravishankar University, Raipur

# AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.30 a.m. to 5.30 p.m. Monday through Friday.

## RESEARCH IN PROGRESS

### A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

#### PHYSICAL SCIENCES

##### Statistics

1. Bagai, Isha. *Tests for some statistical hypotheses under the competing risks model*. Panjab. Dr. S.C. Kochar and Prof. J.V. Deshpande.

##### Chemistry

1. Chaudhary, Beer Singh. *A study of biological markers in crude oil and sediments with special reference to amino acids*. HP. Dr. C.S. Pandey.
2. Gupta, Pawan Kumar. *Study of amino acids as geochemical markers in Indian petroleum crude oil and sediments*. HP. Dr. C.S. Pandey.
3. Jha, Krishna Kumar. *Chelating polymers as chemical reagents for separation of metal ions and treatment of industrial wastes*. Delhi. Dr. S.K. Sindhvani.
4. Madhusudan, Trimbak Bachute. *Synthetic studies in natural products*. Shivaji. Dr. R.B. Mane.
5. Sud, Anila. *Methods for organic functional group analysis and some of their commercial applications*. HP. Dr. B.C. Verma.

##### Earth Sciences

1. Ravinder Singh. *Structural-lithological investigations of Noraul sulfide belt, District Kulu, Himachal Pradesh, India*. Panjab. Dr. Ravindra Kumar.

#### Engineering and Technology

1. Bhasin, Shyam Sunder. *Analysis of incremental force and fatigue monitoring of skeletal muscles and its application in production engineering*. Panjab. Dr. D.S. Bedi and Dr. G.C. Ray.
2. Sengupta, D.K. *Studies on processing and properties of high polymeric engineering materials*. Delhi. Shri M.L. Mandal and Dr. R. Chandra.

#### BIOLOGICAL SCIENCES

##### Biochemistry

1. Decruze, S. William. *Studies on the structure and function of mitochondria of filarial parasite*. Kerala. Dr. R. Kaleysa Raj.
2. Gomathy, R. *Studies on the hypoglycaemic and hypolipidemic principle of the inflorescence stalk : Pith of the stem of Musa sapientum*. Kerala. Dr. P.A. Kurup and Dr. N.R. Vijayalakshmi.
3. Joy, Mariamma. *Methanolism of heparan sulphate in liver*. Kerala. Dr. P.R. Sudhakaran.
4. Mohammad Rafi, M. *Studies on the mitochondrial systems of filarial parasites*. Kerala. Dr. R. Kaleysa Raj.
5. Sissan, Mohammad Ali Ghanbari. *Studies on lipid metabolism*. Kerala. Dr. S.L. Leelamma.
6. Sredatha, S. *Investigations on liver biomatrix*. Kerala. Dr. P.R. Sudhakaran.
7. Sundaresan, S. *Biochemical changes during water stress in Mannihot esculenta*. Kerala. Dr. P.R. Sudhakaran.

## Botany

1. Geeta Rani. *Cytotaxonomic studies on some mosses of Western Himalayas with particular reference to the mosses of Dharamsala and adjoining areas*. Panjab. Prof. S.S. Kumar.
2. Krishan Lal. *Biosynthesis of organic acids and fats by some selected mucorales*. Panjab. Prof. G.S. Rawla and Dr. I.B. Prashar.
3. Mane, Subhash Krishna. *Studies on the fossil plants of Ongole Area, A.P. Shivaji*. Dr. B.A. Vagyan.
4. Sood, Neelu. *In vitro morphogenetic studies on some species of Brassica*. Panjab. Dr. (Mrs) Harvinder Cheema.

## Zoology

1. Dubey, Sudha. *Studies on certain endocrine tissues of a teleost fish in relation to its reproductive cycle*. Devi Ahilya. Dr. G.K. Dubey.
2. Kurde, Sushama. *Effect of textile effluents and dyes on the haematological parameters in albino rat*. Devi Ahilya. Dr. Rampal Singh.

3. Sharma, Kailash. *Histological, histochemical and gas liquid chromatographic studies of digestive organs of certain teleosts effected by pesticide*. Devi Ahilya. Dr. Rampal Singh.

4. Shinde, Rajshree Vasantrao. *Impact of natural and man made changes on the biological resources of the Pauchaganga River System in Western Ghats*. Shivaji. Dr. J.S. Samant.

5. Verma, Deepak Kumar. *Effects of some organochlorine pesticides on urogenital organs of certain teleosts*. Devi Ahilya. Dr. Ashok Sharma.

## Medical Sciences

1. Harbir Kaur. *A study of the human clavicle*. Panjab. Prof.INDERJIT Dewas.
2. Santoshkumari, K.S. *Investigations on biochemical effect of anti hypertensive drugs on glycolipid and glucuronoglycan metabolism*. Kerala. Dr. K. Saraswathi Devi.
3. Sudharmma, B. *Studies on the biochemical effects of allcin isolated from garlic on experimental hyperlipidemia and diabetes*. Kerala. Dr. K.T. Augusti.

# THESES OF THE MONTH

## A List of Doctoral Theses Accepted by Indian Universities

### PHYSICAL SCIENCES

#### Mathematics

1. Ibochou Singh, K. *Laminar flows and heat transfer of macro-molecular fluids*. Dibrugarh.
2. Shrivastava, Sushil Kumar. *Some problems on summability of Fourier series, allied series and associated series*. HS Gour.
3. Thikane, Surendra Bada. *Stability and instability in relativistic hydrodynamics*. Shivaji.

#### Physics

1. Agrawal, Surish Kumar. *Reduced widths and related problems in radioactivity of minerals*. ISM, Dhanbad.
2. Bhaumik, Rekharani. *Crystal and molecular structure of biologically important molecules with particular reference to sympathonimetic amines*. Calcutta.
3. Chattopadhyay, Tirthankar. *Plasmon energy and X-ray chemical shift studies in some systems*. ISM, Dhanbad.
4. Gandhikaja, Poornachandra. *The role of modern instrumental techniques of analysis in the characterisation of soils in crime investigation*. Osmania.
5. Hanifa, Mohammad Abu. *Studies on uranium contents in some selected liquids and their significance*. Gauhati.
6. Koul, Surinder Kumar. *Study of transport properties of amorphous chalcogenides (Se, Se-Ge, Se-Sb, Se-Te and Ge-Te-Se systems)*. Delhi.
7. Sharma, Brijesh Kumar. *Surface scattering in metallic thin films and wires*. Jiwaji.
8. Shukla, Ashok Kumar. *Study of the electron transport phenomenon in polycrystalline semiconductors*. Delhi.
9. Singh, Tej Bahadur. *Luminescent properties of ZnS phosphors doped with Pb, Sn, Dy and Pr*. Gorakhpur.
10. Sinha, Anil Kumar. *Low temperature dielectric studies of doped vanadium dioxide crystals*. Delhi.
11. Somi Reddy, M. *X-ray studies on some A 15 type inter-metallics*. Osmania.

12. Tyagi, Ashok Kumar. *Surface damage effects in metallic glasses by helium, hydrogen and argon ion bombardment*. IIT, Delhi.

13. Warad, Arun Uttarakshwar. *Studies on electrochemical photovoltaic solar cells formed with Bidedop CdS films*. Shivaji.

#### Chemistry

1. Aryan, Ram Chander. *Some aspects of photochemistry of conjugated carbonyl compounds*. IIT, Delhi.
2. Baruah, Pulul. *Chemical examination of insecticidal plants*. Dibrugarh.
3. Basavaraja, K.M. *Synthetic studies in benzofurans*. Gulbarga.
4. Berad, Baliram Namdeo. *Organic chemistry of nitrogen, sulphur and oxygen containing compounds; Synthesis of N-glycosylated nitrogen and sulphur containing 5 and 6 membered heterocyclic compounds*. Nagpur.
5. Chowdhry, Prakash. *Synthesis and characterization of some organic derivatives of tungsten*. Delhi.
6. Datta, Swapna Kumar. *Studies on organic bivalent sulphur compounds: Synthesis and reactions of 2-aryl-oxazaphthalene 1-sulphenyl compounds*. Gauhati.
7. Gupta, Subash Chander. *Synthetic studies on some potential bioactive omnes*. Jammu.
8. Gupta, Sudhir Kumar. *Studies on some physico-chemical aspects of phosphate and vanadate apatites of calcium*. NEHU.
9. Haran Singh. *On the studies of the hydroxamic acid complexes of transition metals*. Bihar.
10. Jahagirdar, Hemant Ganesh. *Synthetic and structural studies of some thermally stable coordination polymers*. Nagpur.
11. Joshi, Dharendra Mohan. *Synthesis and characterisation of organoantimony (V) complexes with polydentate ligands*. IIT, Delhi.
12. Mehta, Adityakumar Shantilal. *Studies on recovery of bromine*. Bhavnagar.



13. Pandey, Arun Prakash. *A study in the oxidation of organic compounds by dimethyl sulphoxide*. Vikram.

14. Ramesh Chandra, Y. *Chemistry of bridged biphenyls of Myrica nagi Thunb and the total synthesis of malabaricones A and B*. Delhi.

15. Sarma, Jadv Ch. *Chemical transformations of naturally occurring sesquiterpenes*. Dibrugarh.

16. Saumadi, Rajshri. *Studies in photochemical reactions of some biological active compounds*. Vikram.

17. Shah, Shailesh Rajnikant. *Studies on nntibacterials*. Bhavnagar.

18. Sharada, L. Nalanda. *Study of transition metal chelates with same substituted conmarins*. Osmania.

19. Singh, Om Pal. *Graft-copolymerization of starch with vinyl monomers*. IIT, Delhi.

20. Siva Prasad, A. *Studies on pyrimidine derivatives and related heterocycles*. Dibrugarh.

21. Sooknundun, Jyoti. *Stereochemical studies on some transition metal complexes of substituted thioxenicarbazides*. Delhi.

22. Wadhawan, Rainu. *Synthetic studies on possible antimaeic agents*. Jammu.

#### Earth Sciences

1. Basavanna, M. *Petrology, mineralogy and geochemistry of the iron formations in the high grade region, Karnataka*. Bangalore.

2. Gupta, Arindam. *A geological appraisal of the Son lineament by remote sensing and airborne geophysical survey techniques with particular reference to the early precambrian rocks*. ISM, Dhanbad.

3. Mohan, Rao, V. *Development of radio wave absorption method and its application in the exploration of conductive deposits*. Osmania.

4. Nayak, Ganapati Narayan. *Studies on morphology, texture and mineralogy of the beaches along north Karnataka Coast around Karwar, India*. Karnataka.

5. Sathyamurthi, K. *Geoelectrical investigations in the Deccan Trap Region of Alkakat and Mangalvedha Blacks, Salapur District, Maharashtra*. Osmania.

6. Sathyanarayana Reddy, L. *Study of asbestos and steatite mineralization from Kolhapur Area, Mahababnagar, Distt. A.P.* Osmania.

7. Tripathi, Rajendra Kumar. *Geology around Malanjkhnd, District Balaghat, M.P.* HS Gour.

#### Engineering and Technology

1. Basu, Arup Kumar. *Optimal system design for mineral handling plants*. ISM, Dhanbad.

2. Gupta, S.R. *A study of ignition behaviour and spatter losses during dip transfer in Mag. welding*. Roorkee.

3. Jinaga, Basavaraj Channappa. *Maximally flat non-recursive digital filters*. IIT, Delhi.

4. Khanna, Raja Ram. *Scientific studies, investigations and technical research*. ISM, Dhanbad.

5. Mendiratta, Jugal Kishore. *Microprocessor based speed control of doubly fed induction motor*. IIT, Delhi.

6. Nayak, Kisanrao Madhaurao. *Study of wear phenomenon in some two-phase non-ferrous alloys*. Nagpur.

7. Sharma, Sunil Kumar. *Physico-chemical studies of polymeric lubricants*. IIT, Delhi.

8. Shukla, Shiva Nand. *Thermal modelling of solar hot water systems*. IIT, Delhi.

9. Varuna Reddy, Potula. *Coupled bending vibration characteristics of pre-twisted rotating blades*. IIT, Delhi.

## Forthcoming.....

### Book of Yudhistir

*B. Bose Tr. by S. Mukherjee*

This modern interpretation of the **Mahabharata** is translated from the original Bengali. The epic is analysed from an unbiased view-point in a way different from all conventional approaches. The author has drawn parallels from other Indian scriptures to find out the main spirit behind the **Mahabharata** with Yudhistir as the leading figure—Hardbound.

### A History of India

*N. K. Sinha and Nisith R. Ray*

A new edition of this book which is a valuable contribution to the history of India. It covers the history of India from pre-historic to present times. It is a study in depth and a geo-historical account which not only narrates but also evaluates—Hardbound.

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# INSTITUTE OF ENGINEERING & TECHNOLOGY, LUCKNOW

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## ADVERTISEMENT No. 1/86

Applications on plain paper addressed to the Director are invited from Indian citizens for the following posts with self-certified copies of certificates and testimonials and postal order of Rs. 10/- for posts at S.No. 1 to 5 (Rs. 7/- for SC/ST) and of Rs. 5/- for posts at S. No. 6 to 16 (Rs. 3/- for SC/ST) payable to Director at Aliganj extension post office, Lucknow 226020 giving details viz. Name, Age, (Date of birth), Qualifications with percentage marks at each level starting from High School, experience, publications, reference etc., so as to reach the Director on or before 30th August 1986. Posts are temporary but likely to continue. Persons working in Govt./Semi Govt. organisations should apply through proper channel or bring a 'NO OBJECTION CERTIFICATE' at the time of the interview.

Sl. No.	Post (No. of Posts)	Scale Rs.	Qualifications & Experience
1.	PROFESSOR(2) (Mech.-1, Electronics-1)	1500-2500	Ph.D.+15years Exp. (as per AICTE norms)
2.	ASSTT. PROFESSOR (8) (Elect.-2, Electronics-2, Mech.-1, Comp. Science-2, Civil-1)	1200-1900	Ph.D.+6 years exp. (as per AICTE norms)
3.	LECTURER (11) (Elect.-2 Electronics-2, Comp. Science-3, Mech.-3, Civil-1).	700-1600	B. Tech.+1½ years P.G. work or M. Tech.(asper AICTE norms)
4.	Dy. Registrar (1)	850-1720	Graduation+5years exp.
5.	Medical Officer (1)	850-1720	MBBS+Some Exp. (P.G. qualifications preferred)
6.	Instructors (3)	570-1100	Dip. (Elect/ Electronics/ Civil/ Computer Science)+5 yrs. exp.
7.	Foreman (2) (Workshops)	570-1100	Dip. (Mech)+5 yrs. Exp.

8.	Asstt. Librarian (1)	515-860	B. Lib. Sci.+3 years Exp.
9.	Draftsman (1)	470-735	H.S.+ITI+5 years Exp.
10.	Mechanic Gr. "A"(1)	470-735	H.S.+ITI+5 years Exp.
11.	Lady Matron (1)	400-615	Inter+5 years exp.
12.	Jr. Noter Drafter (1)	400-615	Inter+5 years exp.
13.	Routine Clerk/ Typist (3)	354-550	Inter+minimum typing speeds of 30 wpm in English and Hindi
14.	Mechanic Gr. "B"(3)	354-550	H.S.+ITI+2½ years Exp.
15.	Tubewell Operator(1)	330-495	H.S.+ITI+2 years Exp.
16.	Componnder (1)	400-615	H.S.+Compounders Training+3 yrs Exp.

Posts carry allowances and other benefits as approved by the Board of Governors from time to time usually similar to other State Engineering Colleges of U.P. No. of posts can be increased or decreased or withdrawn. Usual age limits for Govt. posts will be adhered to for posts at Sl. No. 6 to 16 but the Selection Committee can relax these limits under special cases.

The Institute, which is being developed on a 100 acre plot on Sitapur Road beyond Aliganj Extension, started teaching of B. Tech. level from Nov. 1984 on its own campus where residential facilities for faculty and staff are also being developed. The Institute constitutes the faculty of Engineering and Technology of the Lucknow University. We wish to recruit a dynamic and forward looking faculty and a team of sincere and hard working supporting staff capable of participating in and contributing to the fast growth of the Institute. Faculty can expect a right atmosphere for academic and development activities. The Institute emphasizes on multi-disciplinary approach and practical orientations of teaching and research in collaboration with the industries in and around Lucknow.

**Dr. Suresh Chandra  
DIRECTOR**

# **Council of Scientific and Industrial Research**

## **ADVERTISEMENT No. 12/86**

It is proposed to appoint two Scientist 'F' for Central Road Research Institute, New Delhi.

The Central Road Research Institute is a CSIR Laboratory for R & D in highway/transportation engineering, including pavements and materials, traffic and transportation, geo-technical engineering, bridge engineering etc. Also the Institute undertake consultancy assignments and conducts training programmes for in-service highway engineers and others.

### **JOB REQUIREMENTS**

#### **Post No. 1 and 2**

The selected Scientist is expected to provide high level leadership in R & D work in (1) Transport planning with particular reference to road transportation including environmental aspect, traffic management and traffic engineering measures, road safety etc., and (2) broad area of flexible pavements and to undertake and guide consultancy assignments in the area.

### **Qualifications and Experience**

#### **Post No. 1 and 2**

High academic qualifications in Engineering with First Class Master's Degree or Ph.D. in the related fields. He should have an established reputation of excellence with atleast 10 years R & D experience as evidenced by publications/patents in (1) Traffic Transport Engineering; and (2) Flexible pavements for road and air fields, materials and mixes, design and evaluation; construction and maintenance.

**Salary/Conditions of Service :** The scale of pay attached to this post is Rs. 2000-125/2-2500 plus allowances as admissible under Central Government Rules. This is a contractual appointment initially for a period of six years. The contract is extendable and the incumbent can also be confirmed. Consultancy subject to an upper limit of Rs. 15,000/- per annum is permissible. Free medical aid and leave travel concession are also permissible for the family as per Govt. rules. Residential accommodation will be provided on payment of usual rent subject to availability.

**Age :** Preferably below 50 years, relaxable in deserving cases.

A duly constituted 'Screening Committee' will decide on the number of Scientists to be invited to meet the full Selection Committee. The decision of the Council in this behalf will be final. Applications from employees working in Government Departments, Public Sector Organisations and Government funded research agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within three months of receipt of the appointment orders.

Those interested may kindly send in their curriculum vitae in duplicate in the standard proforma obtainable from the Joint Secretary (Administration), Council of Scientific and Industrial Research, Rafi Marg, New Delhi-110001, on or before 9-10-1986.

# **The United States Educational Foundation in India**

**"Fulbright House", 12 Hailey Road, New Delhi-110001**

**1986-87 POST-DOCTORAL TRAVEL-ONLY GRANTS**

Applications are invited for a limited number of Travel-only grants to the United States from Indian scholars who have research or teaching assignments in the United States beginning January, 1987 or later. Only those with programmes for a minimum period of three months will be considered.

**Candidates must :**

- (1) have a Ph.D. degree or equivalent published work;
- (2) be Indian citizens and be present in India on the closing date of the competition;
- (3) be proficient in English;
- (4) be in good health;
- (5) not have been in the U.S. during the last four years to teach or do research;
- (6) be accepted by a recognised U.S. university or research institution for post-doctoral research and/or as a visiting lecturer and must have assurance of dollar finance to cover their expenses in the U.S. for the duration of the assignment. The letter of acceptance must show the nature and duration of the assignment, and must be accompanied by evidence of dollar support at the rate of not less than \$9,000 and not more than \$20,000 per academic year. The evidence of dollar support could be in the form of a grant or fellowship offered by American universities or research institutions by Indian universities or research institutions.

The grant will provide round-trip economy class air travel, by the most direct route, from the candidate's ordinary place of residence or his academic institution to his U.S. institution and back. Excursion fare tickets valid for 120 days will be provided for those with programs of less than four months duration in the U.S. Travel will be arranged by the Foundation, and grantees must travel on U.S. visas issued against the IAP-66 provided by the Foundation and must conform to rules and regulations of the U.S. Government applicable to all exchange-visitor visa holders.

For application forms and further details contact the Director, U.S.E.F.I., "Fulbright House", 12 Hailey Road, New Delhi-110001 before October, 15, 1986.

## **ADMISSION NOTICE FOR M.B.A. COURSE (SESSION 86-88)**

**National Institute of Management Training & Education  
BELA, DARBHANGA (BIHAR) ESTD. 1980**

**(AFFILIATED TO : L.N. MITHILA UNIVERSITY, DARBHANGA)**

On requested from a large number of candidates who missed the chance to apply in time or appear at the selection test for 1986 on 20-7-86 the Management of the Institute has decided to hold another TEST on 31-8-86 at 11 A.M. in the Institute premises. Graduates of any faculty desirous of seeking admission in Two-Year degree course of the L.N. Mithila University, Darbhanga are eligible for admission test. Prospectus and form can be had on payment of Rs. 20/- in cash at the counter or Rs. 25/- by crossed Bank Draft/Postal Order drawn in favour of Director (Administration), Institute of Business Management, Darbhanga. The duly filled up forms along with necessary papers and admission test fee of Rs. 40/- only in cash/crossed Bank Draft should reach the undersigned latest by the 29th August, 86. Candidates who have already applied or appeared at the test on 20-7-86 need not apply. No letter calling for the admission test will be sent.

**Dr. N.P. Sinha  
DIRECTOR (Administration)**

# CLASSIFIED ADVERTISEMENTS

## UNIVERSITY OF BOMBAY

BOMBAY-400 032

Applications are invited in the prescribed form for the following posts in the University :

Sr. No.	Designation of the Post	Department/Centre/ College	No. of Posts	Posts reserved for (SC/ST/DT & NT)	Open Category
1.	Professor of Agricultural Economics	Economics	1	—	1
2.	Professor of General Economics	-do-	1	—	1
†3.	Seth Walchand Hirachand Professor/Reader in Transport Economics	-do-	1	—	1
***4.	Reader in Agricultural Economics	-do-	1	1	—
5.	Reader (Temporary vacancy)	-do-	1	—	1
6.	Lecturer in Agricultural Economics (Temporary vacancy)	-do-	1	—	1
*7.	Lecturer in General Economics	-do-	1	—	1
*8.	Lecturer	Centre of Advanced Study in Economics	1	—	1
***9.	Professor of Cultural Anthropology	Sociology	1	1	—
***10.	Lecturer	-do-	2	2	—
11.	Lecturer	Statistics	1	—	1
*12.	Lecturer	-do-	1	—	1
***13.	Lecturer	-do-	1	1	—
14.	Lecturer	Civics and Politics	1	—	1
***15.	Lecturer in Politics	-do-	1	1	—
16.	Professor of Psychology	Applied Psychology	1	—	1
17.	Reader in Industrial Psychology	-do-	1	—	1
*18.	Reader	-do-	1	1	—
19.	Lecturer	-do-	1	—	1
*20.	Lecturer in Applied Psychology	-do-	1	1	—
21.	Professor of Constitutional Law	Law	1	—	1
22.	Professor	-do-	1	—	1
23.	Reader	-do-	1	—	1
24.	Reader	-do-	1	—	1
***25.	Lecturer	-do-	1	1	—
26.	Professor	English	1	—	1
27.	Lecturer	-do-	1	—	1
***28.	Professor	Mathematics	1	1	—
29.	Professor	-do-	1	—	1
*30.	Reader	-do-	1	—	1
***31.	Reader	-do-	1	1	—
*32.	Lecturer	-do-	1	—	1
33.	Professor	Centre of Advanced Study in Mathematics	2	—	2
34.	Professor	Linguistics	1	—	1
35.	Reader	-do-	1	—	1
***36.	Lecturer	-do-	1	1	—
37.	Reader	Chemistry	1	—	1
***38.	Reader	-do-	1	1	—
*39.	Lecturer	-do-	1	—	1
*40.	Lecturer	-do-	1	—	1
***41.	Lecturer	-do-	1	1	—
***42.	Lecturer	-do-	1	1	—
*43.	Reader	Physics	1	—	1
*44.	Reader	-do-	1	—	1
***45.	Reader	-do-	1	1	—
*46.	Lecturer	-do-	1	1	—

Sr. No.	Designation of the Post	Department/Centre/College	No. of Posts	Posts reserved for (SC/ST/DT & NT)	Open Category
47.	Lecturer (Temporary Vacancy)	Physics	1	—	1
***48.	Lecturer	-do-	1	1	—
***49.	Lecturer	Sanskrit	1	1	—
50.	Lecturer	-do-	1	—	1
51.	Lecturer (Temporary Vacancy)	Library Science	1	—	1
*52.	Lecturer	-do-	1	—	1
53.	Professor of German	Foreign Languages	1	—	1
54.	Reader in German	-do-	1	—	1
55.	Reader in French	-do-	1	—	1
56.	Reader in Russian	-do-	1	—	1
**57.	Lecturer in German	-do-	1	1	—
**58.	Lecturer in French	-do-	1	1	—
59.	Reader	History	1	—	1
*60.	Reader	-do-	1	1	—
*61.	Lecturer	Marathi	1	—	1
62.	Professor	Hindi	1	—	1
63.	Lecturer	-do-	1	—	1
**64.	Lecturer	Geography	1	1	—
65.	Professor	Education	1	—	1
*66.	Lecturer	-do-	1	—	1
67.	Reader	Sindhi	1	—	1
***68.	Lecturer	-do-	1	1	—
69.	Professor in Banking	Commerce	1	—	1
70.	Lecturer	-do-	1	—	1
71.	Lecturer	-do-	1	—	1
72.	Reader	Computer Science	1	—	1
***73.	Lecturer	-do-	1	1	—
**74.	Lecturer	Life Sciences	1	1	—
75.	Reader	Centre of East African Studies	1	—	1
*76.	Reader	-do-	1	—	1
**77.	Lecturer	-do-	1	1	—
78.	Reader	Centre of Soviet Studies	2	—	2
*79.	Lecturer	-do-	1	—	1
80.	Professor of Architecture	Sir J.J. College of Architecture	1	—	1
81.	Professor	-do-	1	—	1
82.	Reader in Structure	-do-	1	—	1
83.	Reader in Architecture	-do-	1	—	1
84.	Lecturer in Architecture	-do-	9	5***	4
85.	Lecturer in Structure	-do-	2	1***	1
*86.	Lecturer in Architecture	-do-	2	—	2
87.	Lecturer in Architecture	-do-	1	—	1

The pay-scales of the posts are as follows: Professor—Rs. 1,500-60-1,800-100-2,000-125/-2-2,500; Reader—Rs. 1,200-50-1,300-60-1,900; Lecturer—Rs. 700-40-1,100-50-1,600. In addition to Pay, Dearness Allowance, House Rent Allowance and Compensatory Local Allowance will be paid according to the University rules. The total emoluments at the minimum of the respective pay-scale, at the current rates of allowances, are as follows: Professor—Rs. 3,185.35. Reader—Rs. 2,885.35. Lecturer—Rs. 1,963.00. A higher starting pay may be

given to persons appointed to the posts of Professor and Reader in special cases. All posts other than the posts at serial numbers 5, 6, 47 and 51 carry the retirement benefits according to the existing rules of the University. Teachers of the University are permitted to take up outside work according to the University rules. The appointments to the posts, except otherwise stated, will be made on probation for two years but the probationary period may be reduced by the Executive Council in special cases. Candidates belonging to the Scheduled

Castes, Scheduled Tribes, Denotified Tribes and Nomadic Tribes so notified for the state of Maharashtra will alone be considered for the reserved posts. If suitable candidates from the Backward Classes are not available, other candidates will be considered for appointment on purely temporary basis except for the posts at serial numbers 4, 15, 25, 36, 38, 45, 48, 49, 58, 68, 74 and 77. Candidates only from Backward Classes should apply for the posts at serial numbers 4, 15, 25, 36, 38, 45, 48, 49, 58, 68, 74 and 77.

The minimum qualifications prescribed for the posts, other than the posts at serial numbers 25, 27, 57, 58, 66 and 80 to 87 are as under:—

#### Professor

An eminent scholar with published work of high quality, actively engaged in research. About ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

#### OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

#### Reader

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in—(i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding record of teaching/research.

#### Lecturer

(a) A Doctor's degree or research work of an equally high standard; and

(b) Good academic record with at least second class (C in the seven-point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign university.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, candidate possessing a good academic record, (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research of high standard within eight years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

Lecturer in the Faculty of Law— (Applicable to post at serial number 25):

LL.M. Degree with good academic record.

Lecturer in English—(Applicable to post at serial number 27):

(a) A Doctor's degree or research work of an equally high standard; and

(b) Good academic record with at least second class (C in the seven-point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign university.

Having regard to the need for developing inter-disciplinary programmes, the degree in (a) and (b) above may be in relevant subjects.

#### Desirable

Post-graduate diploma in teaching of English/English Studies awarded by the Central Institute of English and Foreign Languages, Hyderabad.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a candidate possessing a good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality), may be appointed provided he has done research work for at least two years on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within eight years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

Lecturers in Foreign Languages—(Applicable to posts at serial numbers 57 and 58):

(a) A Doctor's degree or research work of an equally high standard; and

(b) Good academic record with at least Second Class (C in the seven-point scale) Master's degree from an Indian University or an equivalent degree from a Foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a candidate possessing a good academic record may be appointed provided he has done one-year post M.A. diploma course in the teaching of Foreign Language concerned from a University on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within eight years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

Lecturer in Education— (Applicable to post at serial number 66):

(a) A Doctor's degree in Education or research work of an equally high standard; and

(b) Good academic record with at least Second Class (C in the seven-point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a Foreign University.

#### OR

(a) A Doctor's degree in any University discipline or research work of an equally high standard; and

(b) Good academic record with an M. Phil. degree in Education (which may be acquired while in service) from an Indian University or an equivalent degree from a Foreign University.

Having regard to the need for developing inter-disciplinary programmes, one of the degrees in (a) and (b) above may be in relevant subjects, the other being in Education.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a candidate possessing a good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within eight years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

The minimum qualifications prescribed for the posts at serial numbers 80,81,83,84,86 and 87 are as under :

#### Professors

An eminent scholar with published work of high quality actively engaged in research. Ten years of experience in teaching/research/professional work. Experience of guiding research.

#### OR

An outstanding architect with established reputation who has made significant contribution to knowledge.

#### Readers

B. Arch. with 7 years experience in teaching/research/professional work.

#### OR

M. Arch. with 5 years experience in teaching/research/professional work.

#### Lecturers

Bachelor's degree in Architecture plus two years of relevant professional experience.

#### OR

Master's degree in Architecture and one year's relevant professional experience.

Provided further that if a candidate does not possess a Master's degree in Architecture and professional experience or a person possessing such experience is not found suitable, the person appointed will be required to obtain the desired professional experience within a period of five years of his appointment failing which he will not be able to earn further increments until he fulfils this requirement.

The minimum qualifications prescribed for the posts at serial numbers 82 and 85 are as under :

#### Readers

A good academic record with a Doctor's degree in the relevant field. About 5 years experience of teaching and/or research and development.

Provided further that candidates not possessing a Doctor's degree may be considered if they have to their credit equivalent research published work of design/development work of a high order either in the institution or in an industry.

#### OR

In the case of persons to be recruited from industry or professional field, candidate should possess good academic record with recognised professional work of about 7 years which should include innovation and/or research and development.

#### Lecturers

(a) Master's degree in appropriate field in Engineering/Technology.

(b) Consistently good academic record with a bachelor's degree in Engineering/Technology. First Class at Bachelor's degree and/or Master's degree level.

(c) One year's relevant professional experience outside academic/research institutions.

Having regard to the requirements of emerging fields of Engineering and of developing interdisciplinary programmes, the requirements of Engineering/Technology Degrees may be waived in the cases of otherwise well qualified candidates.

Provided further that if a candidate does not possess professional experience or a person possessing such experience is not found suitable, the person appointed will be required to obtain desired professional experience within a period of five years of his appointment failing which he will not be able to earn future increments, until he fulfils this requirement.

The additional qualifications prescribed for the posts are as under :

1. Professor of Agricultural Economics (Economics) — Specialization in Agricultural Economics with high quality and reputed research publications in that area and ability to initiate and execute research projects.

2. Professor of General Economics (Economics) — Specialization in Economic Theory with Theoretical contributions in major areas of Economic Analysis.

3. Seth Walchand Hirchand Professor/Reader in Transport Economics (Economics) — High level of competence in theoretical and applied Transport Economics evidenced by substantial published research work of high quality in the areas of specialization.

4. Reader in Agricultural Economics (Economics) — Specialization in theoretical aspects in Agricultural Economics or problems of Indian Agricultural Development.

6. Lecturer in Agricultural Economics (Economics) — (Temporary Vacancy) Specialization in Agricultural Economics. Preference will be given to a candidate having some field experience.

7. Lecturer in General Economics (Economics) — Specialization in Economic Theory—Micro and Macro-Economics.

14. Lecturer (Civics and Politics)—Specialization in Indian Government and Politics and Public Administration.

15. Lecturer in Politics (Civics and Politics)—Specialization in International Politics.

16. Professor of Psychology (Applied Psychology)—Desirable: Specialization in one of the following three areas, namely, Clinical Psychology, Counselling Psychology or Industrial Psychology.

17. Reader in Industrial Psychology (Applied Psychology) — Specialization in Industrial Psychology is essential.

18. Reader (Applied Psychology)—Desirable: Specialization in either Clinical Psychology or Counselling Psychology.

19. Lecturer (Applied Psychology)—The desirable specialization should be in the areas of Experimental, Clinical, Counselling, Industrial or Social Psychology.

20. Lecturer in Applied Psychology (Applied Psychology)—Specialization in Developmental and Educational Psychology/Vocational Guidance and/or Counselling.

22. Professor (Law)—Specialization in Jurisprudence and/or Criminal Law.

23. Reader (Law)—Specialization in Law of Taxation and/or Labour Law.

24. Reader (Law)—Specialization in Criminal Law and/or Constitutional Law.

26. Professor (English)—Good knowledge of British Literature from 1550 to 1980.

Teaching and Research experience should be in two of the following fields:

- (a) British Literature from 1930s to 1980s.
- (b) British Literature from the Romantic Revival to 1930s.
- (c) British Literature from the Renaissance to the Augustan Age.
- (d) Western Theories of Literary Criticism and Aesthetics.
- (e) Applied English Linguistics with a Special Reference to Literary Studies.
- (f) Forms of Literature.
- (g) English Language Teaching with a Background in Applied English Linguistics.
- (h) British Literature in Relation to Other Literatures. (In India and Abroad).

27. Lecturer (English)—(i) A Diploma or its equivalent in English Language Teaching, (ii) Experience in Teaching English Language Methodology/Proficiency Courses in English Language and/or in Material Production for English Language Teaching.

33. Two Professors (Centre of Advanced Study in Mathematics)—Specialization in Pure Mathematics.

36. Lecturer (Linguistics)—Contemporary Linguistic Theory.

37. Reader in Chemistry (Analytical Chemistry) (Chemistry)—Experience of teaching Analytical Chemistry. Research experience in area of Inorganic Analysis



including Instrumental Methods and/or Radio-Analytical Chemistry.

38. **Reader (Chemistry)**—Research work of merit in one or more of the following areas in Organic Chemistry, viz., Natural Products, Synthetic Organic Chemistry, Industrial and Perfumery Chemicals, Organic Reagents, Mechanisms Organic Chemistry, Organic Photochemistry.

39. **Lecturer in Chemistry (Chemistry)**—A Doctor's degree or research work of an equally high standard must be in Organic Chemistry and a Master's degree must be in Organic Chemistry.

40. **Lecturer in Chemistry (Chemistry)**—A Doctor's degree or research work of an equally high standard must be in Physical Chemistry and a Master's degree must be in Physical Chemistry.

41. **Lecturer in Chemistry (Chemistry)**—A Doctor's degree or research work of an equally high standard must be in Organic Chemistry and a Master's degree must be in Organic Chemistry. Experience in micro-analysis is desirable.

42. **Lecturer in Chemistry (Chemistry)**—A Master's degree must be in Analytical Chemistry. A Doctor's degree or equivalent research work preferably in Analytical Chemistry or in any other branch of Chemistry. Research work preferably in bio-analysis and analysis of food materials.

43. **Reader (Physics)**—Specialization in Experimental Solid State Physics or Experimental Solid State Electronics or Electrons.

44. **Reader (Physics)**—Specialization in Experimental Nuclear Physics/Theoretical Particle Physics.

45. **Reader (Physics)**—Specialization in Laser Physics or Solid State Electronics with knowledge of electronic circuits or Nuclear Physics.

47. **Lecturer (Physics)**—(Temporary Vacancy)—Specialization in Experimental Nuclear Physics. Additional qualification: Familiarity with ion implantation techniques.

49. **Lecturer in Sanskrit (Sanskrit)**—Sound knowledge of Sanskrit Grammar.

50. **Lecturer (Sanskrit)**—Sound knowledge of the Vedic literature and also of the Prakrits.

51. **Lecturer (Library Science)**—(Temporary Vacancy)—Experience of teaching classes in Library Science will be preferred.

52. **Lecturer (Library Science)**—At least five years' experience of the library work in a responsible capacity in a large academic or research library.

54. **Reader in German (Foreign Languages)**—Specialization in German literature and/or German linguistics is desirable.

57. **Lecturer in German (Foreign Languages)**—Post-graduate Diploma in the teaching of German is desirable.

59. **Reader (History)**—Specialization/research or published work/teaching experience in History of revolutions/Historical methods/Transition from Feudalism to Capitalism/Modern Europe/Imperialism and Nationalism in India is desirable.

60. **Reader (History)**—Specialization/research experience in Medieval Indian History, Social and Economic/West Asia is desirable.

61. **Lecturer (Marathi)**—Specialization in one of the following areas:

- (1) Grammar and Linguistic study of Marathi.
- (2) Marathi prosody and rhetoric.
- (3) Theory of Literature.

63. **Lecturer (Hindi)**—Special interest in (a) Linguistics or (b) Literary Criticism or (c) Modern Literature or (d) Medieval Poetry.

64. **Lecturer (Geography)**—Specialization in use of Quantitative Methods, Cartography.

**Desirable** : Diploma in Cartography/use of Quantitative techniques in Physical Geography.

66. **Lecturer (Education)**—Specialization in the field of Politics of Education/Economics of Education.

68. **Lecturer (Sinhali)**—Desirable : Knowledge of Prosody.

70. **Lecturer (Commerce)**—First Class or Second Class Bachelor's degree in Arts or Commerce with specialization in Economics/Applied Economics. Preference will be given to those who have research experience and papers or Articles.

71. **Lecturer (Commerce)**—First Class or Second Class B. Com. and M. Com. degree with specialization in Accounting/Banking/Management. M. Phil. degree of any University. M.B.A./M.M.S. will be an additional qualification. Preference will be given to the Ph.D. degree.

74. **Lecturer (Life Sciences)**—Specialization in Immunobiology, Cell biology, Biological Chemistry, Molecular biology, Neurobiochemistry, Ultrastructure, Applied Microbiology, Tissue Culture.

75. **Reader (Centre of East African Studies)**—Specialization and experience of teaching/research in African Studies with reference to any of the Social Science disciplines such as Economics, Political Science, History, Sociology, Geography, International Affairs and Area Studies.

Knowledge of Swahili will be an added qualification.

76. **Reader (Centre of East African Studies)**—Specialization and experience

of teaching/research in African Studies with reference to any of the Social Science disciplines such as Economics, Political Science, History, Sociology, Geography, International Affairs and Area Studies.

Knowledge of Swahili will be an added qualification.

77. **Lecturer (Centre of East African Studies)**—Preferably with some specialization in African Studies with reference to any of the Social Science disciplines such as Economics, Political Science, History, Sociology, Geography, International Affairs and Area Studies.

Knowledge of Swahili will be an added qualification.

78. **Two Readers (Centre of Soviet Studies)**—Specialization and experience of teaching/research relating to Soviet Union/Socialist Societies with reference to any of the Social Science disciplines such as Economics, Political Science, History, Sociology, Geography, International Affairs and Area Studies.

Knowledge of Russian language will be an added qualification.

79. **Lecturer (Centre of Soviet Studies)**—Preference will be given to those having teaching or research experience relating to Socialist Societies in any Social Science disciplines, such as Economics, Political Science, History, Sociology, International Relations, Area Studies.

Knowledge of Russian language will be an added qualification.

**Explanation** : (1) For determining "good academic record" the following criteria shall be adopted:

- (i) A candidate holding a Ph.D. degree should possess at least a second class Master's degree; or
- (ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree; or
- (iii) A candidate not possessing a Ph.D. degree but possessing a second class Master's degree should have obtained first class in the Bachelor's degree.

(2) Candidates having secured marks more than the mid-point of the prescribed minimum marks for passing an examination in the second class and the prescribed minimum marks for passing an examination in the first class by a University shall be deemed to have passed that examination in the high second class.

The qualification regarding experience is relaxable at the discretion of the Executive

Council on the recommendation of the Selection Committee in the case of candidates belonging to the Scheduled Castes, Scheduled Tribes, Denotified Tribes and Nomadic Tribes.

EIGHT copies of the application in the prescribed form together with copies of certificates and the prescribed fee, should be sent in an envelope superscribed with "Application for the post of——" so as to reach the Registrar, University of Bombay, (Teaching Appointments Unit) Fort, Bombay-400 032; on or before Saturday, 30th August, 1986. Candidates from abroad, Andaman and Nicobar Islands and Lakshadweep may send their applications so as to reach the Registrar on or before Monday, 15th September, 1986. Candidates who are already employed shall send their applications through proper channel. The University reserves the right of accepting/rejecting applications received after the last date fixed for the receipt of applications. Incomplete applications and applications on plain paper will not be considered. Canvassing, direct or indirect, will be a disqualification.

Prescribed forms of application can be had, in person, from the Teaching Appointments Unit, Registrar's Office (Room No. 134), University of Bombay, Fort, Bombay-400 032. Requests for supply of a set of eight prescribed forms by post should be made sufficiently in advance with a self-addressed stamped (Rs. 2.10) envelope of the size of 27 x 12 cms.

**Notes:** \*The posts are permanent. However, appointments are to be made on a temporary basis and are likely to be made permanent.

\*\*The posts are reserved for candidates belonging to backward classes and are being advertised for the second time.

\*\*\*The posts are reserved for candidates belonging to backward classes and are being advertised for the third time.

†The post of Seth Walechand Hirachand Reader in Transport Economics will be filled in only if no suitable candidate is available for the post of Seth Walechand Hirachand Professor of Transport Economics. Applicants should state in their applications the post i.e. Professor and/or Reader for which they wish to be considered.

G.M. Rajwari  
REGISTRAR

## COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

### JUNIOR RESEARCH FELLOWSHIP EXAMINATION, NOVEMBER, 1986

Advertisement No. 2-4/86-E.U.II

Applications are invited from Indian Nationals by the Council of Scientific and Industrial Research, New Delhi for the award of Junior Research Fellowships at the rate of Rs. 1000/- p.m. and a contingent grant of Rs. 5000/- p.a. in Science and Mathematics subjects. The Fellowships will be tenable at various Indian Universities, Institutes of Technology, Medical Colleges/Institutes, Centres of Advanced Studies, C.S.I.R. Laboratories and other Research/Academic Institutions. Selected candidates will be encouraged to work for the M. Phil/Ph.D. Degrees of any University or Institution authorised to award such Degrees. The last date for receipt of applications in the CSIR Examination Unit, CSIR Complex, N.P.L. Campus, Hillside Road, Near Pusa Gate, New Delhi-110012 is 8-9-86 (15-9-86 in case of candidates from Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Ladakh Division of J & K State, Lahaul and Spiti District and Pangi Sub-Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands and Lakshadweep).

2. The selection for the award of Junior Research Fellowships will be made on the basis of a competitive written examination consisting of two papers. One paper will be of a 'General' nature for testing mental abilities and a broad awareness of scientific knowledge at an elementary level. The other will be an optional paper to be selected from one of the following subjects: Chemistry, Earth Sciences, Life Sciences, Mathematics, Physics, Statistics and Science Policy. The optional paper will correspond to knowledge at the post-graduate level in that subject. The General Paper will carry 50 marks and the Optional Paper, 150 marks. The General Paper and Optional Papers will be of 2 hours and 3 hours duration respectively. The examination for both papers would be conducted on 30-11-86 in two separate sessions.

3. Candidates possessing M.Sc./M.A. Degree in any of the subjects mentioned above will be eligible for the examination. Candidates with M.Sc./M.A. Degree in any branch of Science or Social Science including Philosophy or Bachelor's degree in Engineering will also be eligible for the examination provided they opt "Science

Policy" as their optional subject for the examination. The number of Fellowships for each subject is limited. SC/ST applicants may be given such special consideration in the award of a limited number of Fellowships as the C.S.I.R. may deem fit.

4. Candidates who have appeared in the qualifying examination in any of the aforesaid subjects, and whose result is awaited or those who have completed the requirements for appearing in the final examination, may also apply. In such cases, the appropriate certificate will have to be produced from the concerned Head of the Department/College/Institution together with the application form. However, the Fellowship will become operative after the candidate has duly passed the examination and joined research under a qualified supervisor at a recognised centre of higher learning.

The medium of both the question papers will be English only.

5. The proposed centres of the examination are Ahmedabad, Bangalore, Bhopal, Bhubaneswar, Calcutta, Chandigarh, Dehradun, Delhi, Dhanbad, Hyderabad, Jammu, Jorhat, Lucknow, Madras, Nagpur, Patna, Pune and Trivandrum.

The centres and the date of holding the examination as mentioned above are liable to be changed at the discretion of the CSIR. While every effort will be made to allot the candidates to the centre of their choice for examination, the CSIR may, at their discretion, allot a different centre to a candidate, when circumstances so warrant. Candidates admitted to the examination will be issued an Admit Card authorising them to take the examination. The Admit Card will indicate the date and timings of each paper and the Venue where the candidate should report for appearing at the examination.

6. Candidates appearing at the examination at a Centre other than their normal place of residence will be paid second class rail fare by the shortest route from their place of residence as mentioned in the application form/Admit Card to the Centre (nearest to their residence) and back. No fare will be paid to local candidates.

7. The upper age limit for the examination is 25 years as on 1st July, 1986. A relaxation in age limit up to 3 years will be considered in the case of applicants who are suitably qualified. The upper age limit is relaxable upto 5 years in case of candidates belonging to S.C. and S.T. categories.

8. The Fellowships will be effective from 1-3-87 or from the date of joining research whichever is later. The Fellowship will initially be for a period of two years. If on completion of two years as JRF, the research progress/achievements of the Fellow, on assessment, as per CSIR rules, is found to be satisfactory, the Fellowships may be upgraded to Senior Research Fellowship with stipend of Rs. 1200/- p.m. in case of unsatisfactory progress, the tenure of JRF may be extended for a maximum period of one year followed by second assessment at the end of third year or terminated on the recommendation of the Assessment Committee. The total tenure both as JRF and SRF will be 5 years. Those who have held or are holding fellowships for a period of 2 years or more may also appear for the test, but, in the event of their selection they will be awarded Senior Research Fellowship with monthly stipend of Rs. 1,200/- for a period of 3 years only.

9. Candidates must apply in the prescribed form as printed in the Employment News dated 9-8-86. The application form may either be cut from the said Employment News or copied from it. The application form, duly completed in all respects, should be either delivered by hand or sent by registered post to the Controller of Examinations, Examination Unit, C.S.I.R. Complex, N.P.L. Campus, Hillside Road, Near Pusa Gate, New Delhi - 110 012 so as to reach him latest by 8-9-86 (15-9-86 in case of candidates from States/Regions mentioned in para 1).

No application received after the prescribed date will be considered nor will the fees be refunded in such cases.

The cover containing the application form must be superscribed "APPLICATION FOR JRF".

10. Copies of the syllabus and sample questions can be obtained from the Controller of Examinations, Examination Unit, C.S.I.R. Complex, N.P.L. Campus, Hillside Road, Near Pusa Gate, New Delhi-110012 either personally or on written request INDICATING THE SUBJECT IN WHICH THE CANDIDATE WANTS TO APPEAR latest by 22-9-86 and no request will be entertained after this date.

The request should be accompanied by a self-addressed envelope (40 cm x 15 cm approx.) for the purpose.

## JADAVPUR UNIVERSITY

CALCUTTA - 700 032

Employment Notification No. A2/C/8/86

Dated : July 10, 1986

The University invites applications in the prescribed form for the following posts :

1. Professor of History — One post.

Scale of Pay : Rs. 1500-60-1800-100-2000-125/2-2500/-.

### Qualifications

**Essential :** An eminent scholar with published work of high quality actively engaged in research. Ten year's experience of teaching and/or research. Experience of guiding research at doctoral level.

**Specialisation :** Indian/Asian/Western History.

2. Reader in Sanskrit : One post.

Scale of Pay : Rs. 1200-50-1300-50-1900/-

### Qualifications

**Essential :** Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position.

This condition may be relaxed in the case of candidates with outstanding record of teaching/research.

**Explanation :** For determining "good academic record" the following criteria shall be adopted:

(i) A candidate holding a Ph.D. degree should possess at least a second class Master's degree; or

(ii) A candidate without a Ph.D. degree

should possess a high second class Master's degree and second class in the Bachelor's degree;

OR

(iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

**Specialisation :** Literature and Poetics.

**Last Date of Receiving Application is August 31, 1986.**

Application forms are obtainable from the University Office during working hours on payment of Rs. 2/- or by post on payment of Rs. 3/- inclusive of postage. Higher initial salary may be given to really deserving candidate. Those who are in employment should submit their applications through proper channel. Choice of Selection Committee will not necessarily be confined to applicants only. Canvassing in any form will disqualify a candidate.

REGISTRAR

## UNIVERSITY OF KERALA

UNIVERSITY BUILDINGS

TRIVANDRUM

### NOTIFICATION

No. PR 305/19/86

Dated : 31-7-1986

It is hereby notified for the information of all concerned that the last date for receipt of applications for the following posts referred to in University Notification of even number dated 28-4-1986 has been extended to **28-8-1986**:

1. Finance Officer
2. Director (Publications)
3. Reader (Aquatic Biology and Fisheries)
4. Lecturer (Aquatic Biology and Fisheries)
5. Reader (Botany)
6. Lecturer (Botany)
7. Reader (Russian)
8. Technician (Linguistics)

S.K. Rajagopal

REGISTRAR

## सम्पूर्णानन्द संस्कृत विश्वविद्यालय वाराणसी

[विज्ञापन सं. 10/86]

अधोलिखित पदों पर नियुक्ति हेतु निर्धारित आवेदन-प्रपत्र पर, जो दस रुपये नगद जमाकर अथवा बित्त-अधिकारी, सम्पूर्णानन्द संस्कृत विश्वविद्यालय, वाराणसी के नाम देय क्रास्ड-पोस्टल-आर्डर भेजकर प्राप्त किये जा सकते हैं। अंक-पत्रों एवं प्रमाणपत्रों की प्रतिलिपियों सहित दिनांक 31 अगस्त, 1986 तक ही आवेदन-पत्र स्वीकार किये जायेंगे। अंकपत्रों एवं प्रमाणपत्रों के अभाव में आवेदन-पत्रों पर विचार करना सम्भव न होगा। नियोजित व्यक्ति नियोजक के माध्यम से आवेदन करें। परीक्षण काल एक वर्ष का होगा, जिसे एक वर्ष से अनधिक काल के लिए बढ़ाया जा सकता है तथा अधिवाधिता आयु 60 वर्ष होगी। महर्षिता तथा अन्य भत्ते विश्वविद्यालयीय नियमानुसार देय होंगे। साक्षात्कारार्थ आहूत व्यक्तियों को किसी प्रकार का मार्ग ध्यय देय न होगा। सभी अभ्यर्थियों को आवेदन-प्रपत्र पर पासपोर्ट आकार का स्पष्ट नवीनतम छायाचित्र लगाना आवश्यक है।

पदनाम—(1) आचार्य, तुलनात्मक धर्म-दर्शन, (2) प्राध्यापक, ऋग्वेद, प्रत्येक में एक-एक पद स्थायी।

बेतनमान—आचार्य रु. 1500-2500 एवं प्राध्यापक रु. 700-1600।

न्यूनतम अर्हता—

आचार्य—या तो उच्च कोटि की प्रकाशित रचना सहित प्राख्यात विद्वत्ता और अनुसंधान कार्य में सक्रिय रूप से कार्यरत और अध्यापन का 10 वर्षों का अनुभव या अनुसंधान कार्य या डाक्टर की उपाधि के स्तर पर अनुसंधान कार्य के मार्गदर्शन का अनुभव, या विद्या के क्षेत्र में महत्त्वपूर्ण योगदान के लिए संस्थापित प्रतिष्ठा सहित विशिष्ट विद्वत्ता।

प्राध्यापक—(1) (क) सम्बद्ध विषय में डाक्टर की उपाधि या समानतः उच्च स्तर

का अनुसंधान कार्य, और (ख) सम्बद्ध विषय में प्रथम श्रेणी या उच्च द्वितीय श्रेणी में स्नातकोत्तर उपाधि या किसी विदेशी विश्व-विद्यालय की समकक्ष उपाधि सहित अविच्छिन्न उत्तम शैक्षणिक अभिलेख। (2) यदि चयन-समिति का यह मत हो कि किसी अभ्यर्थी का अनुसंधान कार्य जो उसके शोध-निबन्ध या उसकी प्रकाशित रचना से सुस्पष्ट हो, अत्यधिक उच्च स्तर का है तो वह खण्ड (1) के उप-खण्ड (ख) में विहित किसी अर्हता को शिथिल कर सकती है। (3) जहाँ डाक्टर की उपाधि या समकक्ष अनुसंधान कार्य वाला कोई अभ्यर्थी उपलब्ध न हो या उपयुक्त न समझा जाय, वहाँ अविच्छिन्न उत्तम शैक्षणिक अभिलेख वाले किसी व्यक्ति को (मास्टर आफ फिलासफी या समकक्ष

उपाधि या उल्लिखित अनुसंधान कार्य को महत्त्व देते हुए) परन्तु उसने कम से कम दो वर्ष तक अनुसंधान कार्य किया हो या उसे किसी अनुसंधान प्रयोगशाला या संगठन में कार्य करने का व्यावहारिक अनुभव हो, इस शर्त पर नियुक्ति किया जा सकता है कि वह अपनी नियुक्ति के दिनांक से पाँच वर्ष के भीतर डाक्टर की उपाधि प्राप्त कर ले या तत्समान उच्च स्तर का अनुसंधान कार्य करने का साक्ष्य प्रस्तुत करे। ऐसा न करने पर वह भविष्य में बेतनवृद्धि तब तक नहीं प्राप्त कर सकेगा, जब तक कि वह उक्त अपेक्षाओं को पूरा न कर ले। (4) (क) विश्वविद्यालय द्वारा प्रथम और द्वितीय श्रेणी दिये जाने के लिए विगत अंकों के न्यूनतम प्रतिशत के

## UNIVERSITY GRANTS COMMISSION

BAHADUR SHAH ZAFAR MARG  
NEW DELHI - 110002

The University Grants Commission has agreed to build a cadre of outstanding Research Scientists in Indian Universities in Humanities, Social Sciences, Sciences, Engineering and Technology. With this view the UGC has instituted positions of Research Scientists in the pay scale of Rs. 700-1600 (Category 'A'), Rs. 1200-1900 (Category 'B') and Rs. 1500-2500 (Category 'C'). The minimum qualifications for these positions is a Ph.D. degree with outstanding academic record and a research experience of at least 2 years after Ph.D. degree for Category 'A', 5 years for Category 'B' and 10 years for Category 'C'.

Scientists already working under the scheme may also apply if they so desire.

Applications may be made in the prescribed form to be obtained from the University Grants Commission latest by 15th September, 1986. Applications giving all details may be forwarded through the University/Institute where the Scientist desires to work so as to reach the UGC not later than 15th October, 1986. A self-addressed unstamped envelope of 4" x 9" may also be enclosed with your request.

dayp 823(4)/86

बीच मध्यवर्ती अंक से अधिक अंकों को उच्च द्वितीय श्रेणी का अंक कहा जायेगा, (ख) कोई ऐसा अभ्यर्थी जिसने या तो स्नातकोत्तर उपाधि के पूर्व दो परीक्षाओं में अर्थात् इण्टर-मीडिएट और स्नातक उपाधि की परीक्षा में (दोनों परीक्षाओं में से किसी भी एक परीक्षा में प्राप्त अंकों पर विचार किये बिना) औसतन 55% अंक प्राप्त किये हों या दोनों परीक्षाओं में से प्रत्येक में अलग-अलग 50% अंक प्राप्त किये हों, अविच्छिन्न उत्तम शैक्षणिक अभिलेख वाला कहा जायेगा।

ज्ञान बाजपेयी  
कुलसचिव

## GOA UNIVERSITY

Bambolim, Goa - 403 005,

Applications for the post of a Reader and two Lecturers in the faculty of Commerce and Business Administration in the prescribed form (8 copies) available from the office of the Registrar on payment of Rs. 10/- payable in cash or Bank Draft in favour of the Registrar, Goa University, Bambolim, Goa-403 005, are invited so as to reach this office not later than 15th September, 1986.

The scales of pay and educational qualifications will be as prescribed by the University Grants Commission for the relevant post. The posts also carry other allowances as admissible to Central Government employees.

Dr. S.K. Gandhi  
REGISTRAR

## ASSOCIATION OF INDIAN UNIVERSITIES

AIU HOUSE, 16 KOTLA MARG, NEW DELHI-110002

Applications from Indian Citizens are invited for the following posts in the prescribed form available on payment of Rs. 2/- from the office of the Association :

1. Asstt. Accountant : Scale of pay Rs. 650-960 : One  
1st class or high second class Commerce graduates. Should have passed at least Intermediate exam. of Chartered Accountants/Cost and Works Accountants of India, with at least 5 years supervisory experience. Persons with Computer Accounting experience will be preferred.
2. Asstt. Section Officer : Scale of pay Rs. 650-960 : One  
Graduate with at least 5 years experience as a junior executive in University/ Govt. Office/ Research Establishment/ Autonomous Organisation. Persons with experience of organising meetings/seminars/symposia/Documentation and publication work will be preferred.
3. Professional Assistant : Scale of pay Rs. 550-900 : One  
Candidates should possess a first or second class Master's Degree in one of the Social Sciences and a Master's Degree in Library/Information Science. Experience in Documentation will be preferred.
4. Assistant : Scale of pay Rs. 425-800  
Graduate with at least five years experience in Educational Institutions/Govt. Autonomous Organisation. Experience in noting, drafting, maintenance of accounts/records of sales publications will be preferred.
5. Stenographer : Scale of pay Rs. 425-800 : One  
Graduate with at least five years experience as a Junior Stenographer. Candidates should have a speed of 120 wpm/ 60 wpm in Shorthand and typing respectively.
6. Lower Division Clerk : Scale of pay Rs. 260-400  
Higher Secondary with typing speed of 40 wpm. Preference will be given to those having office experience and knowledge of shorthand.
7. Library Attendant : Scale of pay Rs. 210-270 : One :  
Candidate should have passed higher secondary examination and certificate in Library Science in first or second division. Experience of working in a library will be preferred.

All posts carry usual allowances generally at the Central Govt. rates. Relaxation in any of the requirements may be made in exceptional cases. The Association reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant. Canvassing in any form by or on behalf of a candidate will be a disqualification.

Applications complete in all respects should reach the office by 15th September, 1986. Applications received after the last date or without complete information may not be entertained. SC/ST/Ex-servicemen will be given preference.

# KUMAUN UNIVERSITY, NAINITAL

Advertisement No. 773

Dated 4-8-1986

Applications for the following posts are invited by 10 Sept., 1986 on prescribed form obtainable from the Office of the Registrar, Kumaun University, Nainital-262001 (U.P.) by sending a self addressed 9" x 6" envelope and crossed Postal order/Bank Draft for Rs. 5/- payable to the Finance Officer Kumaun University, Nainital. Money orders are not acceptable. Candidates who have already applied in response to the Advertisement No. 1477 Dt. 21-1-85, Advertisement No. 1199, Dt. 25-11-85 for the post of Lecturer Education and in response of Advt. No. 350 dated 12-12-85 for the post of Lecturer Music (Vocal) need not apply again.

Name of the Post	No. of Post	Scale of Pay	Specialization
1. Professor Botany	1R	1500-2500	—
2. Reader Hindi	1TLR	1200-1900	—
3. Lecturer English	2R	700-1600	—
4. Lecturer Education	1R	700-1600	—
5. Lecturer Music (Vocal)	1LV	700-1600	Vocal Music
6. Reader Geography	1LV	1200-1900	—

Note—R implies regular, TLR implies temporary likely to be regular, LV implies leave vacancy.

## Qualifications

### 1. For the Post of Professor

Either—Eminent Scholar with published work of high quality and active engagement in research and ten years experience of teaching or Research and experience of guiding research at doctorate level.

## OR

Outstanding scholarship with established reputation for significant contribution to knowledge.

### 2. For the Post of Reader

(i) good academic record with a doctorate degree or equivalent published work and active engagement in research or innovation in teaching methods or production of teaching materials; and

(ii) five years experience of teaching or research including at least three years as Lecturer or in equivalent position.

### 3. For the Post of Lecturer English

(a) a doctorate degree or research work of an equally high standard in a relevant subject; and

(b) consistently good academic record with first or high second class Master's degree or an equivalent degree of a foreign University in a relevant subject.

### 4. For the Post of Lecturer Education

Either (a) a doctorate degree in Education or research work of an equally high standard; and

(b) consistently good academic record with first or high second class Master's degree or an

equivalent degree of a foreign University in relevant subject.

## OR

(a) a doctorate degree in any university discipline or research work of an equally high standard; and

(b) consistently good academic record with an M. Phil. degree in Education (which may be acquired while in service) or an equivalent degree of a foreign University.

### 5. For the Post of Lecturer Music (Vocal)

Either (a) consistently good academic record with first or high second class Master's degree or an equivalent degree or diploma recognized by the University; and

(b) two years research or professional experience or creative work and achievement in his field of specialisation or a combined research and professional experience of three years in the field as an artist of outstanding talent.

## OR

a traditional or professional artist with highly commendable professional achievement in the subject concerned.

Further details regarding qualifications, service terms and permissible relaxations in qualifications will be provided with application form. Preference will be given to SC/ST and disabled candidates if otherwise considered suitable by the Selection Committee. Application form will not be sent by post after 1st Sept., 1986. Applications on plain papers and received after due date are not acceptable.

R.C. Pant  
REGISTRAR

# JADAVPUR UNIVERSITY

CALCUTTA-700032

Employment Notification No. A2/C/10/86.

Dated : July 10, 1986.

The University invites applications in the prescribed form for the following posts :

1. Professor	(a) Electrical Engineering	— One post
	(b) Electronics and Tele-Communication Engineering	— Five posts.
2. Reader	(a) Electrical Engineering	— One post.
	(b) Electronics and Tele-Communication Engineering	— Nine posts.
3. Lecturer	(a) Mechanical Engineering	— Five posts.
	(b) Electrical Engineering	— Three posts.
	(c) Civil Engineering	— Three posts

## Qualifications for Professor Post at Sl. Nos. 1(a) and 1(b) Essential

An eminent scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

### OR

An outstanding Engineer/Technologist with established reputation who was made significant contribution to knowledge.

### Desirable

For post 1(a) — (i) Experience of developing laboratories, (ii) Corporate Memberships of learned Professional Bodies.

### Specialisation

For post 1(a) — Electrical Machines.  
For post 1(b) — Electronics and Telecommunication  
— Two posts.  
Computer Science and Engineering  
— Three posts.

## Qualifications for Reader Post at Sl. Nos. 2(a) and 2(b)

**Essential :** Good academic record with a Doctor's degree in a relevant field. About 5 years' experience of teaching and/or research and development.

Provided further that candidates not possessing Ph.D. may be considered if they have to their credit equivalent research published work or design/development work of a high order either in the Institution or in an Industry.

### OR

In the case of persons to be recruited from industry or professional fields, candidate should possess good academic record with recognised professional work of about 7 years which should include innovation and/or research and development.

### Desirable

For post 2(a) : Active interest in development of curriculum and laboratories.  
Experience in Post-graduate teaching.

## Specialisations

For post 2(a) — Control Systems/High Voltage Engineering/Electrical Machines/Elec. Measurements and Instrumentation/Electrical Power Systems.

For post 2(b) — Electronics and Telecommunication  
— Five posts.  
Computer Science and Engineering  
— Four posts.

## Qualifications for Lecturer Post at Sl. Nos. 3(a), 3(b) and 3(c) Essential

- (i) Master's degree in appropriate field in Engineering/Technology;
- (ii) Good academic record with a Bachelor's degree in Engineering/Technology. First Class at Bachelor's degree and/or Master's degree level;
- (iii) One year's relevant professional experience outside academic/research institutions.

Having regard to the requirements of emerging fields of Engineering and of developing interdisciplinary programmes, the requirements of Engineering/Technology degrees may be waived in the cases of otherwise well qualified candidates.

Provided further that if a candidate does not possess professional experience or a person possessing such experience is not found suitable, the person appointed will be required to obtain desired professional experience within a period of eight years of his appointment failing which he will not be able to earn future increments, until he fulfils these requirements.

Whether candidates with M. Tech./M.E. qualifications are not available or M. Tech./M.E. candidates are not found suitable for appointment, the essential qualification may be relaxed and the institutions may appoint First Class Engineering Graduate against the post of Lecturers. Such relaxation will, however, be subject to the condition that the candidates concerned shall have to obtain the M.Tech./M.E. degree within a period of five years. Those candidates who fail

to obtain the M. Tech./M.E. degree within the stipulated period of five years shall not be entitled for drawing their increments due unless they acquire the prescribed qualifications.

Definition of the term 'Gond academic record' for the posts of Lecturers:

- (i) A candidate holding a Ph.D. degree should possess at least a second class Master's degree; or
- (ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree; or
- (iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

### Desirable

For post 3(b) — Active interest in curriculum and laboratory development.

### Specialisations

For post 3(a) — Heat Power — One post.  
Machine Design — One post.  
Field Mechanics — One post.  
Production Engineering — One post.  
Applied Mechanics — One post.  
For post 3(b) — Control Systems/High Voltage Engineering/Illumination Engineering/Electrical Machines/Measurements and Instrumentation/Power Electronics/Power Systems.

Among the 3 posts of Lecturers—One post is reserved for specialisation in Illumination Engineering;

One post is reserved for specialisation in Electrical Machines;

One post is applicable for any of the above specialisations.

For post 3(c) — Structural Engineering

— One post.

Environmental Engineering — One post.

Soil Mechanics and Foundation Engg.

— One post.

### Scale of Pay

Professor : Rs. 1500-60-1800-100-2000-125/2-2500/-

Reader : Rs. 1200-50-1300-60-1900/-

Lecturer : Rs. 700-40-1100-70-1600/-

Last Date of Receiving Applications is 31st August, 1986.

Application forms are obtainable from the University Office during working hours on payment of Rs. 2/- or by post on payment of Rs. 3/- inclusive of postage. Higher initial salary may be given to really deserving candidate. Those who are in employment should submit their applications through proper channel. Choice of Selection Committee will not necessarily be confined to applicants only. Canvassing in any form will disqualify a candidate.

REGISTRAR

**S.N.D.T. WOMEN'S UNIVERSITY****1, Nathibai Thackersey Road, BOMBAY-400 020**

Applications are invited in the prescribed forms available at the University Office, on payment of Rs. 5/- (by M.O./Indian Postal Order/in Cash), for the following posts to be filled in at the University Departments and its Conducted Institutions at Bombay and Poona, so as to reach the undersigned latest by Sept. 10, 1986.

	No. of Post	Medium of Teaching
<b>A. P.V. Polytechnic, JUHU, Bombay-49</b>		
(1) Project Officer (Non-Teaching)	ONE	—
(2) Asstt. Project Officer (Non-Teaching)	ONE	—
(3) Lecturer in Interior Design	SEVEN	ENGLISH
(4) Technician Mechanic (Non-Teaching)	ONE	—
<b>B. S.N.D.T. College of Home Science, Poona-411038</b>		
(1) Technician (Non-Teaching)	ONE	—
<b>C. S.N.D.T. Women's University, Branch Library, Poona</b>		
(1) Assistant Librarian (Non-Teaching)	ONE	—
<b>D. S.V.T. College of Home Science, Bombay</b>		
(1) Lecturer in Textiles and Clothing	ONE (Temp)	ENGLISH
(2) Lecturer in Foods and Nutrition	ONE (Temp)	ENGLISH
(3) Lecturer in Physiology	ONE (Temp)	ENGLISH
(4) Lecturer in Life Science	HALF TIME	ENGLISH
(5) Professor of Foods and Nutrition	ONE	ENGLISH
<b>E. S.N.D.T. College of Arts and C.B. Shah College of Commerce and Economics for Post Graduate Department</b>		
(1) Lecturer in Commerce	ONE	ENGLISH

Details regarding minimum qualifications, Salary Scale, etc. for the above posts, should be collected with application forms. Applications of SC/ST/ONT will be considered as per Government Directives.

Dr. (Smt.) Usha Thakkar  
REGISTRAR

**JADAVPUR UNIVERSITY****CALCUTTA - 700 032****Employment Notification No. A2/C/9/86****Dated : July 10, 1986**

The University invites applications in the prescribed form for the following posts:

1. Lecturer (a) Geological Sciences  
— Three posts.

(b) Chemistry (Inorganic) — One post.  
Scale of Pay : Rs. 700-40-1100-50-1600/-

**Qualifications Essential**

- (a) A Doctor's degree or research work of an equally high standard; and  
(b) Good academic record with at least second class Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign university.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record, (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of re-

search of high standard within eight years of his appointment failing which he will not be able to earn future increment until he fulfils these requirements.

**Explanation**

For determining "Good academic record" the following criterion shall be adopted.

(i) A candidate holding a Ph.D. degree should possess at least a second class Master's degree; or

(ii) A candidate without a Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree.

**OR**

(iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

Persons who have secured marks more than the mid-point of the prescribed minimum marks for passing an examination in the second division and the prescribed minimum marks for passing an examination in the first division by a University shall be deemed to have passed that examination in the high second class.

**Specialisation**

For post No. 1(a) — Palaeontology — One post.

Or Geology — One post.  
Exploration Geology/Structural Geology/Mineralogy/Geochemistry / Photogeology — One post.

**Desirable**

For post No. 1(b) : Candidate should have research experience/published papers in Bio Inorganic/Chemical Crystallography/Chromatography/Solid State Chemistry/Organo Metallic Chemistry.

**Last Date of Receiving Application is August 31, 1986.**

Application forms are obtainable from the University Office during working hours on payment of Rs. 2/- or by post on payment of Rs. 3/- inclusive of postage. Higher initial salary may be given to really deserving candidate. Those who are in employment should submit their applications through proper channel. Choice of Selection Committee will not necessarily be confined to applicants only. Canvassing in any form will disqualify a candidate.

**REGISTRAR**